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THE JOURNAL
OF
MENTAL SCIENCE.

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VOL. LV.



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J. & A. CHURCHILL,
7, GREAT MARLBOROUGH STREET.

MDCCCXCIX.

"In adopting our title of the *Journal of Mental Science*, published by authority of the Medico-Psychological Association, we profess that we cultivate in our pages mental science of a particular kind, namely, such mental science as appertains to medical men who are engaged in the treatment of the insane. But it has been objected that the term mental science is inapplicable, and that the term mental physiology or mental pathology, or psychology, or psychiatry (a term much affected by our German brethren), would have been more correct and appropriate; and that, moreover, we do not deal in mental science, which is properly the sphere of the aspiring metaphysical intellect. If mental science is strictly synonymous with metaphysics, these objections are certainly valid; for although we do not eschew metaphysical discussion, the aim of this JOURNAL is certainly bent upon more attainable objects than the pursuit of those recondite inquiries which have occupied the most ambitious intellects from the time of Plato to the present, with so much labour and so little result. But while we admit that metaphysics may be called one department of mental science, we maintain that mental physiology and mental pathology are also mental science under a different aspect. While metaphysics may be called speculative mental science, mental physiology and pathology, with their vast range of inquiry into insanity, education, crime, and all things which tend to preserve mental health, or to produce mental disease, are not less questions of mental science in its practical, that is in its sociological point of view. If it were not unjust to high mathematics to compare it in any way with abstruse metaphysics, it would illustrate our meaning to say that our practical mental science would fairly bear the same relation to the mental science of the metaphysicians as applied mathematics bears to the pure science. In both instances the aim of the pure science is the attainment of abstract truth; its utility, however, frequently going no further than to serve as a gymnasium for the intellect. In both instances the mixed science aims at, and, to a certain extent, attains immediate practical results of the greatest utility to the welfare of mankind; we therefore maintain that our JOURNAL is not inaptly called the *Journal of Mental Science*, although the science may only attempt to deal with sociological and medical inquiries, relating either to the preservation of the health of the mind or to the amelioration or cure of its diseases; and although not soaring to the height of abstruse metaphysics, we only aim at such metaphysical knowledge as may be available to our purposes, as the mechanician uses the formularies of mathematics. This is our view of the kind of mental science which physicians engaged in the grave responsibility of caring for the mental health of their fellow-men may, in all modesty, pretend to cultivate; and while we cannot doubt that all additions to our certain knowledge in the speculative department of the science will be great gain, the necessities of duty and of danger must ever compel us to pursue that knowledge which is to be obtained in the practical departments of science with the earnestness of real workmen. The captain of a ship would be none the worse for being well acquainted with the higher branches of astronomical science, but it is the practical part of that science as it is applicable to navigation which he is compelled to study."—Sir J. C. Bucknill, M.D., F.R.S.

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1881. Benedikt, Prof. M., Franciskaner Platz 5, Vienna.
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1900. Blumer, G. Alder, M.D., L.R.C.P. Edin., Butler Hospital, Providence, U.S.A. (*Ord. Mem.*, 1890.)
1900. Bresler, Johannes, M.D., Oberarzt, Lublinitz, Silesia. (*Corr. Mem.*, 1896.)
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1890. Alexander, Robert Reid, M.D.Aber., 25, Lingfield Avenue, Kingston-on-Thames.
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1899. Allmann, Dorah Elizabeth, M.B., B.Ch., B.A.O.R.U.I., Assistant Medical Officer, District Asylum, Armagh.
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1881. Brayn, R., L.R.C.P.Lond., Medical Superintendent, Broadmoor Asylum, Crowthorne, Berks.
1895. Briscoe, John Frederick, M.R.C.S.Eng., Resident Medical Superintendent, Westbrooke House Asylum, Alton, Hants.
1905. Brown, Harry Egerton, M.D., M.P.C., West Koffies Asylum, Pretoria, S. Africa.
1904. Brown, Josephine, M.B.Lond., 96, College Place, Camden Town, N.W.
1908. Brown, Robert Cunyngham, M.D.Durh., Deputy Medical Officer, H.M. Prison, Parkhurst, Isle of Wight.

1908. Brown, R. Dods, M.D., M.R.C.P.Edin., D.P.H., Senior Assistant, West House, Morningside, Edinburgh.
1908. Brown, Relf, M.R.C.S., L.R.C.P.Lond., Assistant Physician, Moorcroft, Hillingdon.
1893. Bruce, Lewis C., M.D.Edin., Druid Park, Murthly, N.B. (*Hon. Sec. for Scotland 1901-1907.*)
 - * Brushfield, Thomas N., M.D.St. And., The Cliff, Budleigh Salterton, Devon.
1896. Bubb, William, M.R.C.S., L.R.C.P.Lond., 3, Cloverdale Lawn, Cheltenham.
1892. Bullen, Frederick St. John, M.R.C.S.Eng., 12, Pembroke Road, Clifton, Bristol.
1908. Bullmore, Charles Cecil, J.P., L.R.C.P.&S.Edin., L.F.P.S.Glas., Medical Superintendent, Flower House, Catford.
1907. Burpitt, Harry Reginald, M.D.Bruce, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, London County Asylum, Cane Hill, Coulsdon, Surrey.
1904. Burrell, Arthur Ambrose, M.B., B.Ch., Carrick Manor, Monkstown, Co. Dublin.
1891. Caldecott, Charles, M.B., B.S.Lond., M.R.C.S., Medical Superintendent, Earlswood Asylum, Redhill, Surrey.
1889. Callcott, James T., M.D., Medical Superintendent, Borough Asylum, Newcastle-on-Tyne.
1894. Campbell, Alfred Walter, M.D.Edin., Macquarie Chambers, 183, Macquarie Street, Sydney, New South Wales.
1880. Campbell, Patrick E., M.B., C.M.Edin., Medical Superintendent, Metropolitan Asylum, Caterham.
1897. Campbell, Robert Brown, M.B., C.M.Edin., Medical Superintendent, Stirling District Asylum, Larbert.
1897. Cappe, Herbert Nelson, M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, Surrey County Asylum, Brookwood.
1905. Carre, Henry, L.R.C.P., L.M., Woodilee Asylum, Lenzie, Glasgow.
1891. Carswell, John, L.R.C.P.Edin., L.F.P.S.Glas., Certifying Medical Officer, Barony Parish, 5, Royal Crescent, Glasgow.
1896. Cashman, James P., M.B., B.Ch., B.A.O.Royal Univ. Irel., Assistant Medical Officer, Cork District Asylum.
1874. Cassidy, D. M., M.D., C.M.McGill Coll., Montreal, D.Sc. (Public Health) Edin., F.R.C.S.Edin., Medical Superintendent, County Asylum, Lancaster.
1888. Chambers, James, M.A., M.D., The Priory, Roehampton. (*Co-Editor of Journal since 1905, Assistant Editor 1900-05.*)
1865. Chapman, Thomas Algernon, M.D.Glas., L.R.C.S.Edin., Betula, Reigate.
1907. Chislett, Charles G. A., M.B., Ch.B.Glasgow, Blomgate House, Lanark.
1880. Christie, J. W. Stirling, L.R.C.P.Edin., Medical Superintendent, County Asylum, Stafford.
1878. Clapham, Wm. Crochley S., M.D., F.R.C.P.Ed., The Five Gables, Mayfield, Sussex. (*Hon. Sec. N. and M. Division, 1897-1901.*)
1907. Clarke, Geoffrey, M.D.Lond., Assistant Medical Officer, London County Asylum, Long-Grove, Epsom.
1879. Clarke, Henry, M.D.Durh., L.R.C.P.Lond., H.M. Prison, Wakefield.
1907. Clarke, Sidney Herbert, M.A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P.Lond., Leicestershire and Rutland Asylum, Narborough, near Leicester.
1901. Cleland, William Lennox, M.B., B.Ch.Edin., Park Side, Adelaide, South Australia.
1862. Clouston, T. S., M.D., LL.D.Edin., F.R.C.P., F.R.S.E., 26, Heriot Row, Edinburgh. (*Editor of Journal, 1873-1881.*) (PRESIDENT, 1888.)
1900. Coffey, Patrick, L.R.C.P.&S.I., District Asylum, Maryborough, Queen's Co., Ireland.
1892. Cole, Robert Henry, M.D.Lond., M.R.C.P.Lond., 25, Upper Berkeley Street, W.

1900. Cole, Sydney John, M.A., M.D., B.Ch.Oxon., Senior Assistant Medical Officer, Wilts County Asylum, Devizes.
1906. Collen, Edward Victor, M.D., B.Ch., B.A.O.Dubl., County Asylum, Brentwood, Essex.
1906. Collier, Walter Edgar, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Kent County Asylum, Maidstone.
1903. Collins, Michael Abdy, M.B., B.S., M.R.C.S., L.R.C.P.Lond., London County Asylum, Bexley, Kent.
1888. Cones, John A., M.R.C.S., 2, Portland Place, Kemp Town, Brighton.
1895. Conry, John, M.D.Aber., Fort Beaufort Asylum, South Africa.
1878. Cooke, Edward Marriott, M.D., M.R.C.S.Eng., Commissioner in Lunacy, 69, Onslow Square, S.W.
1899. Cooke, J. A., M.R.C.S., L.R.C.P., Medical Officer and Co-Licencee, Tue Brook Villa, near Liverpool.
1905. Cooper, K. D., L.R.C.P.&S.Edin., L.F.P.S.Glas., c/o Leopold & Co., Apollo, Bunder, Bombay.
1903. Cormac, Harry Dove, M.B., B.S.Madras, Parkside Asylum, Macclesfield.
1891. Corner, Harry, M.D.Lond., M.R.C.S., L.R.C.P., M.P.C., 37, Harley Street, W.
1905. Cotter, James, L.R.C.P.&S.E., L.F.P.S.Glas., Down District Asylum, Downpatrick.
1897. Cotton, William, M.A., M.D.Edin., D.P.H.Cantab., 231, Gloucester Road, Bishopston, Bristol.
1893. Cowen, Thomas Philip, M.D., B.S.Lond., Assistant Medical Officer, County Asylum, Lancaster.
1884. Cox, L. F., M.R.C.S., Medical Superintendent, County Asylum, Denbigh.
1893. Craig, Maurice, M.A., M.D., B.C.Cantab., F.R.C.P.Lond., 54, Welbeck Street, W.
1904. Crawford, William Thomson, M.B.Lond., M.R.C.S., L.R.C.P., East Sussex Asylum, Hellingly, Sussex.
1906. Creighton, John Alexander, M.B., C.M., West Riding Asylum, Wakefield.
1897. Cribb, Harry Gifford, M.R.C.S.Eng., L.R.C.P.Lond., Senior Assistant Medical Officer, London County Asylum, Cane Hill, Coulsdon, Surrey.
1904. Cross, Harold Robert, L.S.A., Storthes Hall Asylum, Kirkburton, near Huddersfield.
1894. Cullinan, Henry M., L.R.C.P.I., L.R.C.S.I., Resident Medical Superintendent, Portrane House, Donabate, Co. Dublin.
1905. Cummins, Edmund Joseph, L.R.C.P.&S.Edin., Old Rectory House, Low Street, South Essex.
1907. Daniel, Alfred Wilson, B.A., M.D., B.C.Cantab., M.R.C.S., L.R.C.P.Lond., Senior Assistant Medical Officer, London County Asylum, Hanwell, W.
1905. Darbyshire, Harold Stewart C., M.R.C.S.Eng., L.R.C.P.Lond., Grosvenor House, West Ealing, W.
1899. Daunt, Elliot, M.R.C.S., L.R.C.P., D.P.H., The Glen, Bursledon Hampshire.
1896. Davidson, Andrew, M.D., C.M.Aber., Callan Park, Sydney, N.S.W.
1891. Davis, Arthur N., L.R.C.P., L.R.C.S.Edin., Medical Superintendent, County Asylum, Exminster, Devon.
1894. Dawson, William R., M.D., B.Ch.Dubl., F.R.C.P.I., Medical Superintendent, Farnham House Asylum, Finglas, Dublin. (*Hon. Divisional Sec. for Ireland since 1902.*)
1869. Deas, Peter Maury, M.B. and M.S.Lond., Medical Superintendent, Wonford House, Exeter.
1883. De Lisle, Samuel Ernest, L.R.C.P., L.R.C.S.I., Three Counties Asylum, Stotfold, Herts.
1901. De Steiger, Adèle, M.B.Lond., County Asylum, Brentwood, Essex.

1905. Devine, Henry, M.B., B.S., M.R.C.P.Lond., M.R.C.S., London County Asylum, Long-Grove Asylum, Epsom, Surrey.
1904. Devon, James, L.R.C.P. & S.Edin., 6, Cathedral Square, Glasgow.
1903. Dickson, Thomas Graeme, L.R.C.P. & S.Edin., Medical Superintendent, Wye House, Buxton.
1905. Dixon, J. Francis, M.D., B.Ch., B.A.O., B.A.Dubl., Three Counties Asylum, Arlesley, Hitchin.
1879. Dodds, William J., M.D., D.Sc.Edin., Valkenburg, Mowbray, near Cape Town, South Africa.
1908. Donald, Robert, M.B., Ch.B.Glas., Medical Officer, Riccarton Asylum, Paisley.
1886. Donaldson, Robert Lockhart, B.A., M.D., B.Ch.Univ. of Dubl., M.P.C., Medical Superintendent, District Asylum, Monaghan.
1889. Donaldson, William Ireland, B.A., M.D., B.Ch.Univ. of Dubl., Medical Superintendent, County of London Manor Asylum, Epsom, Surrey.
1892. Donelan, John O'Connor, L.R.C.P.I., L.R.C.S.I., M.P.C., Medical Superintendent, Richmond Asylum, Dublin.
1899. Donelan, Thomas O'Connor, L.R.C.P. & L.R.C.S.I., Middlesex County Asylum, Napsbury, near St. Albans, Herts.
1902. Douglas, Archibald R., L.R.C.P.&S.Edin., L.F.P.S.Glas., Royal Albert Asylum, Lancaster.
1890. Douglas, William, M.D.Queen's Univ. Irel., M.R.C.S.Eng., Brandfold, Goudhurst.
1905. Dove, Augustus Charles, M.D.Durh., M.B., B.S., "Brightside," Crouch End Hill, N.
1897. Dove, Emily Louisa, M.B.Lond., The School, Durham.
1903. Dow, William Alex., M.D., B.S.Durh., M.R.C.S., L.R.C.P., D.P.H., H.M. Prison, Lewes.
1884. Drapes, Thomas, M.B., Medical Superintendent, District Asylum, Ennis-corthy, Ireland.
1905. Drew, Charles Milligan, M.A., M.B., Ch.B.Glas., Lt. R.A.M.C., c/o Messrs. Holt & Co., 3, Whitehall Place, S.W.
1907. Dryden, A. Mitchell, M.B., Ch.B.Edin., Bwially House, Locherlie Road, Dumfries, N.B.
1899. Dudley, Francis, L.R.C.P.&S.I., Senior Assistant Medical Officer, County Asylum, Bodmin, Cornwall.
1905. Dunlop, James Craufurd, M.D.Edin., L.R.C.P.Edin., M.R.C.S.E., Superintendent of Statistical Department, H.M. General Registry of Births, Marriages, and Deaths, Scotland, 33, Chester Street, Edinburgh.
1903. Dunston, John Thomas, M.D., B.S.Lond., Medical Superintendent, The Asylum, Pretoria.
1907. Dwyer, Patrick J., M.B., B.Ch., R.U.I., Salisbury House, Rathgar, Dublin.
1899. Eades, Albert I., L.R.C.P. & S.I., North Riding Asylum, Clifton, Yorks.
1903. Eady, George John, M.D., M.R.C.P.Edin., M.R.C.S.Eng., 78, Drayton Gardens, S. Kensington, S.W.
1874. Eager, Reginald, M.D.Lond., M.R.C.S.Eng., Northwoods, near Bristol.
1906. Eager, Richard, M.B., Ch.B.Aber., Assistant Medical Officer, Devon County Asylum, Exminster.
1873. Eager, Wilson, L.R.C.P.Lond., M.R.C.S.Eng., St. Aubyn's, Woodbridge, Suffolk.
1881. Earle, Leslie, M.D.Edin., 108, Gloucester Terrace, Hyde Park, W.
1891. Earls, James Henry, M.D., M.Ch., Moyulton, Fairlawn Park, Chiswick, S.W.
1903. East, Guy Rowland, M.B.Durh., Northumberland County Asylum, Morpeth.
1907. East, Wm. Norwood, M.D., Lond., M.R.C.S., L.R.C.P., 2, North Road, Clapham Park, S.W.

1895. Easterbrook, Charles C., M.A., M.D., F.R.C.P.Ed., Physician Superintendent, Crichton Royal Institution, Dumfries.
1895. Edgerley, Samuel, M.D., M.A., C.M.Edin., Assistant Medical Officer, West Riding Asylum, Menston, nr. Leeds.
1900. Edridge-Green, Frederic W., M.D., F.R.C.S., Hendon Grove, Hendon.
1897. Edwards, Francis Henry, M.D.Brux., M.R.C.P.Lond., Medical Superintendent, Camberwell House, S.E.
1901. Elgee, Samuel Charles, L.R.C.P., L.R.C.S.I., London County Asylum, Horton, Epsom, Surrey.
1889. Elkins, Frank Ashby, M.D., Medical Superintendent, Metropolitan Asylum, Leavesden.
1898. Ellerton, Henry B., M.R.C.S., L.R.C.P., Leavesden Asylum, King's Langley R.S.O., Herts.
1873. Elliot, G. Stanley, M.R.C.P.Edin., F.R.C.S.Edin., 31, Belvedere Road, Upper Norwood, S.E.
1908. Ellis, Edward, M.D.Durh., L.R.C.S. & P.Edin., Craven House, Halifax, Yorks.
1890. Ellis, William Gilmore, M.D.Brux., M.R.C.S.Eng., L.S.A., Superintendent, Government Asylum, Singapore.
1908. Ellison, Arthur, M.R.C.S., L.R.C.P., Deputy Medical Officer, H.M. Prison, Leeds, 120, Domestic Street, Holbeck, Leeds.
1899. Ellison, F. C., M.D., B.Ch., T.C.D., Assistant Medical Officer, District Asylum, Castlebar.
1901. Erskine, Wm. J. A., M.D., C.M., Senior Assistant Medical Officer, City Asylum, Nottingham.
1895. Eurich, Frederick Wilhelm, M.D., C.M.Edin., 231, Manningham Lane, Bradford, Yorks.
1894. Eustace, Henry Marcus, M.D., B.Ch., B.A.T.C.D., Assistant Physician, Hampstead and Highfield Private Asylum, Glasnevin, Dublin.
1901. Evans, James Wm., M.R.C.S., L.S.A., Lieut.-Col. Indian Medical Service (retired), East India United Service Club, 16, St. James's Square, S.W., and Martinstown, Dorchester.
1897. Everett, William, M.D., Assistant Medical Officer, County Asylum, Chart-ham Downs, Kent.
1891. Ewan, John Alfred, M.A.St. And., M.D.Edin., Medical Superintendent, Kesteven, County Asylum, Sleaford, Lincs.
1884. Ewart, C. T., M.D., C.M.Aberd., Senior Assistant Medical Officer, Claybury Asylum, Woodford Bridge, Essex.
1906. Ewens, George Francis William, Major I.M.S. Bengal, c/o Messrs. Grindlay & Co., 54, Parliament Street, S.W.
1907. Exley, John, L.R.C.P.I., L.M., M.R.C.S., Medical Officer, H.M. Prison, Grove House, New Wortley, Leeds.
1894. Farquharson, William F., M.D.Edin., Medical Superintendent, Counties Asylum, Garlands, Carlisle.
1907. Farries, John Stoddart, L.R.C.P., L.R.C.S.Edin., Medical Superintendent, Sandwell Hall, Handsworth, near Birmingham.
1908. Faulks, Edgar, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, London County Asylum, Bexley.
1903. Fennell, Charles Henry, M.A., M.D.Oxon, M.R.C.P.Lond., Senior Assistant Medical Officer, East Sussex Asylum, Hellingly, Sussex.
1908. Fenton, Henry Felin, M.B., Ch.B.Edin., Assistant Medical Officer, County and City Asylum, Powick, Worcester.
1907. Fergusson, J. J. Harrower, M.B., Ch.B.Edin., Senior Assistant Medical Officer, Fife and Kinross Asylum, Cupar, Fife.
1905. Ferris, William, M.D., B.S.Lond., Middlesex County Asylum, Tooting, S.W.
1897. Fielding, James, M.D., Victoria Univ., Canada, M.R.C.S.Eng., L.R.C.P. Edin., Medical Superintendent, Bethel Hospital, Norwich.
1906. Fielding, Saville James, M.B., B.S.Durh., Bethel Street, Norwich.
1873. Finch, John E. M., M.D., Medical Superintendent, Borough Asylum, Leicester.

1889. Finch, Richard T., B.A., M.B.Cantab., Manor House, Ilminster, Somerset.
1882. Finegan, A. D. O'Connell, L.R.C.P.I., Medical Superintendent, District Asylum, Mullingar, Ireland. (*Hon. Divisional Sec. for Ireland, 1898-1902.*)
1889. Finlay, David, M.D.Glasg., Medical Superintendent, County Asylum, Bridgend, Glamorgan.
1906. Firth, Arthur Harcus, M.A., M.B., B.Ch.Edin., Wadsley Asylum, near Sheffield.
1903. Fitzgerald, Alexis, L.R.C.P. & S.I., L.M., District Asylum, Waterford.
1894. Fitzgerald, Charles E., M.D., F.R.C.S.I., Surgeon-Oculist to the King in Ireland, 27, Upper Merrion Street, Dublin.
1888. Fitz-Gerald, Gerald C., M.D., B.C.Cantab., M.P.C., Medical Superintendent, Kent County Asylum, Chartham, nr. Canterbury.
1908. Fitzgerald, James Francis, L.R.C.P.&S.Irel., L.M., Assistant Medical Officer, District Asylum, Clonmel, Ireland.
1899. Fitzgerald, James J., M.D., B.Ch., B.A.O.R.U.I., Assistant Medical Officer, District Asylum, Cork.
1901. Fitzgerald, John J., M.D.Brux., L.R.C.P.&S.Edin., Assistant Medical Officer, District Asylum, Cork.
1907. Fleming, Geo. A., L.R.C.P.&S.Irel., Assistant Medical Officer, 100, Piccadilly, W.
1904. Fleming, Wilfrid Louis Remi, M.R.C.S., L.R.C.P., Suffolk House, Pirbright, Surrey.
1899. Flemming, Arthur L., M.R.C.S.Eng., L.R.C.P.Lond., 34, Alma Road, Clifton, Bristol.
1894. Fleury, Eleonora Lilian, M.D., B.Ch., R.U.I., Assistant Medical Officer, Richmond Asylum, Dublin.
1908. Flynn, Thos. Aloysius, L.R.C.P.&S.I., Assistant Medical Officer, Portrane Asylum, Donabate.
1902. Forde, Michael J., M.D., M.Ch., R.U.I., Assistant Medical Officer, Portrane Asylum, Ireland.
1902. Forster, Hermann Julius, L.R.C.P.I., L.S.A., Assistant Medical Officer, Brighton Borough Asylum, Havward's Heath.
1906. Forster, R. A., M.B., Ch.B.Aber., Valhewbury Asylum, Mowbray, Cape Town, S. Africa.
1906. Fortune, John, M.B., Ch.B.Edin., Senior Assistant Medical Officer, Ladywell Sanatorium, Salford.
1861. Fox, Charles H., M.D.St. And., M.R.C.S.Eng., 35, Heriot Row, Edinburgh.
1896. France, Eric, M.B., B.S.Durh., Dutch Chambers, Adderley Street, Cape Town, South Africa.
1881. Fraser, Donald, M.D., 3, Orr Square, Paisley.
1906. Fraser, Thomas Peppé, M.B., Ch.B.Aberd., 93, Beaconsfield Place, Aberdeen.
1901. French, Louis Alexander, M.R.C.S., L.R.C.P., H.M. Prison, Wakefield, Yorks.
1902. Fuller, Lawrence Otway, M.R.C.S.Eng., L.R.C.P.Lond., Eastern Counties Inebriates Reformatory, East Harling, Norfolk.
1906. Gane, Edward Palmer Steward, M.R.C.S.Eng., L.R.C.P.Lond., Borough Asylum, Ryehope, Sunderland.
1904. Garden, W. Sim, M.B., W. Riding Asylum, Menston, Yorks.
1890. Gaudin, Francis Neel, M.R.C.S., L.S.A., M.P.C., Medical Superintendent, The Grove, St. Lawrence, Jersey.
1906. Gavin, Noel John Hay, M.B., Ch.B.Edin., Pathological Department, The University, Manchester.
1885. Gayton, Francis C., M.D.Aberd., M.R.C.S.Eng., County Asylum, Netherne, Merstham, Surrey.
1908. Geale, William James, L.R.C.P., L.F.P.S., Assistant Medical Officer, Scalebor Park, Burley-in-Wharfedale, Yorks.

1896. Geddes, John W., M.B., C.M.Edin., Medical Superintendent, County Borough Asylum, Berwick Lodge, Middlesbrough, Yorks.
1892. Gemmel, James Francis, M.B.Glasg., Medical Superintendent, County Asylum, Whittingham, Preston.
1904. Gibb, James Alex., M.B., Ch.B., Pitmedden, Udny, Aberdeenshire, N.B.
1899. Gilfillan, Samuel James, M.A., M.B.Edin., Senior Assistant Medical Officer, London County Asylum, Colney Hatch.
1889. Gill, Stanley. B.A., M.D., M.R.C.P.Lond., Shaftesbury House, Formby, Liverpool.
1904. Gillespie, Daniel, M.B. (R.U.I.), Wadsley Asylum, near Sheffield.
1897. Gilmour, John Rutherford, M.B., F.R.C.P.Edin., Medical Superintendent, West Riding Asylum, Scalebor Park, Burley-in-Wharfedale, Yorks.
1906. Gilmour, Richard Withers, M.B., B.S.Durh., M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, St. Luke's Hospital, E.C.
1878. Glendinning, James, M.D.Glasg., L.R.C.S.Edin., L.M., Medical Superintendent, Joint Counties Asylum, Abergavenny.
1898. Goldie-Scot, Thomas G., M.B., C.M.Edin., M.R.C.S., L.R.C.P., Moat-of-Troyneer, Dumfries, N.B.
1897. Good, Thomas Saxty, M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, County Asylum, Littlemore, Oxford.
1889. Goodall, Edwin, M.D., B.S.Lond., F.R.C.P., Medical Superintendent, City Asylum, Cardiff.
1899. Gordon, James Leslie, M.B., Ch.B., Tooting Bec Asylum, Tooting, London, S.W.
- * Gordon, William S., M.A., M.B., T.C.D., District Asylum, Mullingar.
1905. Gordon-Munn, John Gordon, M.D., F.R.S.E., Heigham Hall, Norwich.
1901. Gostwyck, C. H. G., M.B., Ch.B., Stirling District Asylum, Larbert.
1894. Graham, Samuel, L.R.C.P.Lond., Assistant Medical Officer, District Asylum, Antrim.
1888. Graham, Thomas, M.D.Glasg., 3, Garthland Place, Paisley.
1887. Graham, William, M.D., R.U.I., Medical Superintendent, District Lunatic Asylum, Belfast.
1908. Graham, William S., M.B., B.Ch., B.A.O., R.U.I., Assistant Medical Officer, Somerset and Bath Asylum, near Taunton.
1886. Greenlees, T. Duncan, M.D., Fenstanton, Christ Church Road, Streatham Hill, S.W.
1904. Griffin, Ernest Harrison, B.A.Cantab., L.S.A.Lond., Camberwell House, Peckham Road, S.E.
1901. Grills, Galbraith Hamilton, M.D., B.Ch., Assistant Medical Officer, County Asylum, Chester.
1900. Grove, Ernest George, M.R.C.S., L.R.C.P., Bootham Park, York.
1894. Gwynn, Charles Henry, M.D.Edin., co-Licensee, St. Mary's House, Whitechurch, Salop.
1905. Hallett, H. G., M.R.C.S., L.R.C.P.Lond., Darenth Asylum, Dartford, Kent.
1894. Halstead, Harold Cecil, M.D.Durh., Assistant Medical Officer, Peckham House, Peckham.
1903. Hanbury, Langton Fuller, M.R.C.S.Eng., L.R.C.P.Lond., West Ham Borough Asylum, Ilford, Essex.
1902. Hanbury, Saville Waldron, M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, London County Asylum, Banstead, Surrey.
1896. Hanbury, William Reader, M.R.C.S., L.R.C.P., Senior Assistant Medical Officer, West Ham Borough Asylum, Goodmayes, Ilford.
1903. Hankin, Chella Mary, M.B.Durh., City and County Asylum, Powick, Worcester.

1901. Harding, William, M.D., M.R.C.P.Lond., Medical Superintendent, Northampton County Asylum, Berry Wood, Northampton.
1899. Harmer, W. A., L.S.A., Resident Superintendent and Licensee, Redlands Private Asylum, Tonbridge, Kent.
1904. Harper-Smith, George Hastie, M.R.C.S., L.R.C.P., B.A.Cantab., Claybury, Woodford Bridge, Essex.
1898. Harris-Liston, L., M.D., M.R.C.S., L.R.C.P.Lond., L.S.A., Middleton Hall, Middleton St. George, Co. Durham.
1905. Hart, Bernard, M.B.Lond., M.R.C.S.Eng., Long-Grove Asylum, Epsom, Surrey.
1886. Harvey, Bagenal Crosbie, L.R.C.P., L.R.C.S., Assistant Medical Officer, District Asylum, Clonmel.
1892. Haslett, William John, M.R.C.S., L.R.C.P., Resident Medical Superintendent, Halliford House, Sunbury-on-Thames.
1891. Havelock, John G., M.D., C.M.Edin., Physician Superintendent, Montrose Royal Asylum.
1890. Hay, Frank, M.B., C.M., Inspector-General of Asylums for New Zealand, Government Buildings, Wellington, New Zealand.
1900. Haynes, Horace E., M.R.C.S., L.S.A., 32, Brunswick Terrace, Hove, Sussex.
1895. Hearder, Frederic P., M.D., C.M., Medical Superintendent, Yorkshire Inebriate Reformatory, Cattal, Whixley, near York.
1905. Henderson, George, M.A., M.B., 52, Prestwick Road, Ayr.
1906. Herbert, Thomas, M.R.C.S.Eng., L.R.C.P., York City Asylum, Fulford, York.
1899. Herbert, William W., M.D., C.M.Edin., North Wales Counties Asylum, Denbigh, North Wales.
1877. Hetherington, Charles E., M.B., Medical Superintendent, District Asylum, Londonderry, Ireland.
1903. Hewitt, David Walker, M.B., B.Ch., R.U.I., Surgeon R.N., H.M.S. Powerful, Australia.
1877. Hewson, R. W., L.R.C.P.Edin., Medical Superintendent, Coton Hill, Stafford.
1902. Higginson, John Wigmore, M.R.C.S., L.R.C.P., Resident Medical Officer, Hayes Park Asylum, Hayes Park, Middlesex.
1882. Hill, H. Gardiner, M.R.C.S., Medical Superintendent, Middlesex County Asylum, Tooting.
1907. Hine, T. Guy Macaulay, M.A., B.C.Cantab., 63, Brook Street, Grosvenor Square, W.
1881. Hitchcock, Charles Knight, M.D., Bootham Park, York.
1908. Hogg, Archibald, M.B., Ch.B.Glas., Assistant Medical Officer, Woodilee Asylum, Lenzie.
1900. Holländer, Bernard, M.D., M.R.C.S., L.R.C.P., 35A, Welbeck Street, London, W.
1903. Hopkins, Charles Leighton, M.B., B.C.Cantab., York City Asylum, Fulford, York.
1894. Hotchkis, Robert D., M.A., M.D., Renfrew Asylum, Dykebar, N.B.
1907. Howard, S. Carlisle, M.B., Ch.B.Aberd., Assistant Medical Officer, Perth District Asylum, Murthly.
1900. Hughes, George Osborne, M.D.Virginia, M.R.C.S., L.R.C.P., Winnipeg, Canada.
1900. Hughes, Percy T., M.B., Ch.M.Edin., D.P.H.Lond., Medical Superintendent, Worcestershire County Asylum, Barnsley Hall, Bromsgrove.
1904. Hughes, William Stanley, M.R.C.S., L.R.C.P., Park View, Aberayron, Cardiganshire.
1897. Hunter, David, M.A., M.B., B.C.Cantab., Medical Superintendent, West Ham Borough Asylum, Goodmayes, Ilford, Essex.
1904. Hunter, Percy Douglas, M.R.C.S., L.R.C.P.Lond., East Sussex County Asylum, Hellingly, Sussex.

1905. Hutchinson, Joseph Armstrong, M.D., M.S.Durh., Northallerton, Yorkshire.
1906. Huxley, Charles Rodney, L.R.C.P.&S.Edin., L.F.P.S.Glas., Kent House Road, New Beckenham, Kent.
1882. Hyslop, James, D.S.O., M.D., Natal Government Asylum, Pietermaritzburg.
1888. Hyslop, Theo. B., M.D., C.M.Edin., M.R.C.P.E., M.P.C., Bethlem Royal Hospital, S.E.
1908. Inglis, J. P. Park., M.B., Ch.B.Edin., Assistant Medical Officer, Borough Asylum, Canterbury.
1871. Ireland, William W., M.D.Edin., 1, Victoria Terrace, Musselburgh, N.B.
1906. Irwin, Peter Joseph, L.R.C.P.&S.I., L.M., District Asylum, Limerick.
1866. Jackson, J. Hughlings, M.D.St. And., F.R.C.P.Lond., F.R.S., Physician to the Hospital for Epilepsy and Paralysis, &c., 3, Manchester Square, London, W.
1908. Jeffrey, Geo. Rutherford, M.B., Ch.B.Glas., Senior Assistant Physician, Crichton Royal Asylum, Dumfries.
1907. Jex-Blake, Bertha, M.B., Ch.B.Edin., Assistant Medical Officer, County and City Asylum, Hereford.
1905. Johnson, Smeeton, M.B.Lond., L.R.C.P., M.R.C.S., Langlands, Cleobury Mortimer, Salop.
1893. Johnston, Gerald Herbert, L.R.C.S. and L.R.C.P.Edin., Brooke House, Upper Clapton, N.
1905. Johnston, Thomas Leonard, L.R.C.P.&S.Edin., L.F.P.S.Glas., Bracebridge Asylum, Lincoln.
1878. Johnstone, J. Carlyle, M.D., C.M., Medical Superintendent, Roxburgh District Asylum, Melrose.
1903. Johnstone, Thomas, M.D.Edin., M.R.C.P.Lond., 32, Park Square, Leeds.
1880. Jones, D. Johnson, M.D.Edin., Medical Superintendent, Banstead Asylum, Surrey.
1866. Jones, Evan, M.R.C.S.Eng., Ty-mawr, Aberdare, Glamorganshire.
1882. Jones, Robert, M.D.Lond., B.S., F.R.C.P., F.R.C.S., Medical Superintendent, London County Asylum, Claybury, Woodford, Essex. (*Gen. Secretary from 1897 to 1906. PRESIDENT 1906-7.*)
1898. Jones, W. Ernest, M.R.C.S.Eng., L.R.C.P.Lond., The Old Treasury Buildings, Spring Street, Melbourne.
1879. Kay, Walter S., M.D., Medical Superintendent, South Yorkshire Asylum, Wadsley, near Sheffield.
1886. Keay, John, M.D., Bangour Village, Uphall, Linlithgowshire.
1899. Keegan, Lawrence Edward, M.D., Medical Superintendent, Lunatic Asylum, St. John's, Newfoundland.
1908. Kelly, Richard, M.B., B.Ch., B.A.C.Dub., Assistant Medical Officer, Storthes Hall Asylum, Kirkburton, near Huddersfield.
1902. Kelley-Patterson, Wm., M.D., M.Ch., R.U.I., Tod Pedu, South Godstone, Surrey.
1898. Kemp, Norah, M.B., C.M.Glas., The Retreat, York.
1907. Keene, George Henry, M.D. (T.C.D.), Camberwell House, Peckham Road.
1899. Kennedy, Hugh T. J., L.R.C.P.&S.I., L.M., Assistant Medical Officer, District Asylum, Enniscorthy, Wexford.
1902. Kennedy, Patrick Gabriel, L.R.C.P.&S.Edin., L.F.P.S.Glasg., Assistant Medical Officer, London County Asylum, Banstead, Surrey.
1897. Kerr, Hugh, M.A., M.D.Glasg., Medical Superintendent, Bucks County Asylum, Stone, Aylesbury, Bucks.
1902. Kerr, Neil Thomson, M.B., C.M.Ed., Medical Superintendent, Lanark District Asylum, Hartwood, Shotts, N.B.
1893. Kershaw, Herbert Warren, M.R.C.S.Eng., L.R.C.P.Lond., Dinsdale Park, near Darlington.

1897. Kidd, Harold Andrew, M.R.C.S.Eng., L.R.C.P.Lond., Medical Superintendent, West Sussex Asylum, Chichester.
1903. King, Frank Raymond, B.A.Cantab., M.R.C.S.Eng., L.R.C.P.Lond., Medical Superintendent, Northumberland House, Finsbury Park, N.
1897. Kingdon, Wilfred Robert, M.B., B.S.Durh., 160, Goldhawk Road, W.
1905. Kingsbury, William Neave, M.R.C.S., L.R.C.P., 15, Blackheath Rise, Lewisham, S.E.
1902. King-Turner, A. C., M.B., C.M.Edin., The Retreat, Fairford, Gloucestershire.
1899. Kirwan, James St. L., B.A., M.B., B.Ch., B.A.O.Roy. Univ. Irel., Medical Superintendent, District Asylum, Ballinasloe, Ireland.
1908. Kirwan, Richard, R., M.B., B.Ch., B.A.O., R.U.I., Assistant Medical Officer, District Asylum, Castlebar.
1903. Kough, Edward Fitzadam, M.B., B.Ch., County Asylum, Gloucester.
1898. Labey, Julius, M.R.C.S., Medical Superintendent, Public Asylum, Jersey.
1902. Langdon-Down, Percival L., M.A., M.B., B.C.Cantab., Dixland, Hampton Wick, Middlesex.
1896. Langdon-Down, Reginald L., M.A., M.B., B.C.Cantab., M.R.C.P.Lond., Normansfield, Hampton Wick.
1902. Laval, Evariste, M.B., C.M.Edin., Langho, nr. Blackburn.
1898. Lavers, Norman, M.D., M.R.C.S., Medical Superintendent, Bailbrook House, Bath.
1899. Law, Charles D., L.R.C.P.&S.Edin., L.F.P.G.S.
1892. Lawless, George Robert, F.R.C.S.I., Medical Superintendent, District Asylum, Armagh.
1870. Lawrence, Alexander, M.A., M.D., County Asylum, Upton, Chester.
1883. Layton, Henry A., M.R.C.S.Eng., L.R.C.P.Edin., Cornwall County Asylum, Bodmin.
1899. Leeper, Richard R., F.R.C.S.I., Medical Superintendent, St. Patrick's Hospital, Dublin.
1905. Le Fanu, Hugh, M.B., C.M.Aber., 145, Leinster Road, Rathmines, Dublin.
1883. Legge, Richard J., M.D., Medical Superintendent, County Asylum, Mickleover, Derby.
1906. Leggett, William, B.A., M.B., B.Ch.Dubl., Assistant Medical Officer, Royal Asylum, Sunnyside, Montrose.
1894. Lentaigne, John, B.A., F.R.C.S.I., Medical Visitor of Lunatics to the Court of Chancery, 42, Merrion Square, Dublin.
1863. Ley, H. Rooke, M.R.C.S.Eng., Beaulieu, Westhy Road, Boscumbe, Hants.
1859. Lindsay, James Murray, M.D.St.And., F.R.C.S. and F.R.C.P.Edin. 53, Victoria Road, Aldershot. (PRESIDENT, 1893.)
1908. Littlejohn, Edward Salteine, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, London County Asylum, Hanwell, N.
1903. Logan, Thomas Stratford, L.R.C.P.&S.Edin., L.F.P.S.Glas., County of London Epileptic Colony, Ewell, Surrey.
1906. Long, Sydney Herbert, M.D.Cantab., Physician to Norfolk and Norwich Hospital, 37, St. Giles Street, Norwich.
1899. Longworth, Stephen G., L.R.C.P. L.R.C.S.I., County Asylum, Melton, Suffolk.
1898. Lord, John R., M.B., C.M., Medical Superintendent, London County Asylum, Horton, Epsom. (*Assistant Editor of Journal since 1900.*)
1906. Lowry, James Arthur, M.B., B.Ch., B.A.O., R.U.I., Assistant Medical Officer, Middlesex County Asylum, Napsbury.
1904. Lyall, C. H. Gibson, L.R.C.P.&S.Edin., Leicester Borough Asylum, Leicester.

1906. Lyell, John Hepburn, M.D.Glasg., M.B., C.M., Assistant Medical Officer to H.M. Prison, the Royal Infirmary, and Parish Council, Perth, 15, Marshall Place, Perth.
1872. Lyle, Thomas, M.D.Glasg., 34, Jesmond Road, Newcastle-on-Tyne.
1906. Macarthur, John, M.R.C.S., L.R.C.P.Lond., The Hut, Manor Road, East Molesey.
1899. Macartney, William H. C., L.R.C.P.&S.I., Riverhead House, Sevenoaks.
1880. MacBryan, Henry C., L.R.C.P. & S. Edin., Kingsdown House, Box, Wilts.
1902. M'Carthy, Owen F., L.R.C.P.&S.I., District Lunatic Asylum, Cork, Ireland.
1900. McClintock, John, L.R.C.P. & L.R.C.S.Edin., Resident Medical Superintendent, Grove House, Church Stretton, Salop.
1900. McConaghey, John C., M.B., C.M.Edin., Parkside Asylum, Macclesfield, Cheshire.
1901. MacDonald, James H., M.B., Ch.B.Glasg., Govan District Asylum, Hawkhead, Paisley, N.B.
1884. MacDonald, P. W., M.D., C.M., Medical Superintendent, Dorset County Asylum, Herrison, Dorchester. (*Hon. Sec. S.W. Division* 1894 to 1905.)
1905. MacDonald, William Fraser, M.B., Ch.B.Edin., Olive Lodge, Polworth Terrace, Edinburgh.
1905. McDougall, Alan, M.D.Vict., M.R.C.S., L.R.C.P.Lond., Medical Director, The David Lewis Colony, Sandle Bridge, near Alderley Edge, Cheshire.
1906. McDowall, Colin Francis Frederick, M.B., B.S.Durh., Assistant Medical Officer, City Asylum, Newcastle.
1870. McDowall, Thomas W., M.D.Edin., L.R.C.S., Medical Superintendent, Northumberland County Asylum, Morpeth. (*PRESIDENT*, 1897-8.)
1893. Macevoy, Henry John, M.D., B.Sc.Lond., M.P.C., 41, Buckley Road, Brondesbury, London, N.W.
1895. Macfarlane, Neil M., M.D.Aber., Medical Superintendent, Government Hospital, Thlotse Heights, Leribe, Basutoland, South Africa.
1883. Macfarlane, W. H., M.B. and Ch.B.Univ. of Melbourne, Medical Superintendent, Hospital for the Insane, New Norfolk, Tasmania.
1902. McGregor, John, M.B., Ch.B.Edin., Assistant Medical Officer, County Asylum, Bridgend, Glam.
1906. MacIlraith, Alex. Robert MacIntyre, Brownlie Place, Cathcart, Renfrewshire.
1905. MacIlraith, W. MacLaren, L.R.C.P. & S.Edin., L.F.P.S.Glasg., L.D.S.R.C.S.Edin., Assistant Medical Officer, St. Just, S.O., Cornwall.
1899. McKelvey, Alexander Niel, L.&M.P.C.P.&S.I., The Asylum, Auckland, New Zealand.
1891. Mackenzie, Henry J., M.B., C.M.Edin., M.P.C., Assistant Medical Officer, The Retreat, York.
1903. Mackenzie, Theodore Charles, M.B., Ch.B.Edin., District Asylum, Inverness.
1899. Mackeown, William John, A.B., M.B., B.A., O.R.U.I., A.M.O., County Asylum, Fareham, Hants.
1907. MacLeod, John A., M.B., Ch.B., Assistant Medical Officer, Lochmore, Lairg, Sutherlandshire.
1901. Macleod, Neil, M.D., C.M.Edin., H.B.M. Consular Surgeon and Surgeon to the General Hospital, Shanghai, China, 12, Whangpoo Road, Shanghai.
1904. Macnamara, Eric Danvers, M.A., M.B., 54, Welbeck Street, W.
1898. Macnaughton, George W. F., M.D., F.R.C.S.Edin., M.R.C.P.Lond., 33, Lower Belgrave Street, Eaton Square, London, S.W.
1882. McNaughton, John, M.D., Medical Superintendent, Criminal Lunatic Asylum, Perth.
1882. Macphail, S. Rutherford, M.D.Edin., Derby Borough Asylum, Rowditch, Derby.
1896. Macpherson, Charles, M.D.Glas., Deputy Commissioner in Lunacy, 15, Portland Square, Edinburgh.

1886. Macpherson, John, M.D., F.R.C.P., Commissioner in Lunacy, 8, Darnaway Street, Edinburgh.
1901. McRae, G. Douglas, M.B., C.M.Edin., Medical Superintendent, District Asylum, Ayr, N.B.
1902. Macrae, Kenneth Duncan Cameron, M.B., Ch.B.Edin., Lynwood, Murrayfield, Edinburgh.
1908. McWalter, William H., M.B., Ch.M.Glas., Medical Officer, H.M. Convict Prison, Peterhead.
1894. McWilliam, Alexander, M.A., M.B., C.M.Aber., Waterval, Odiham, Winchfield, Hants.
1865. Manning, Henry J., B.A.Lond., M.R.C.S., Laverstock House, Salisbury.
1900. Manning, Herbert C., M.R.C.S., L.R.C.P., County Asylum, Cambridge.
1908. Mapother, Edward, M.D., B.S.Lond., Assistant Medical Officer, London County Asylum, Long-Grove, Epsom.
1903. Marnan, John, M.B., B.Ch., Second County Asylum, Gloucester.
1896. Marr, Hamilton C., M.D.Glasg.Univ., Medical Superintendent, Woodilee Asylum, Lenzie. (*Hon. Sec. Scottish Division since 1907.*)
1905. Marshall, Robert Macnab, M.B., Ch.B., Oaklands, 21, Maxmill Drive, Pollokshields, Glasgow.
1908. Martin, Henry Cooke, M.B., Ch.B.Edin., Assistant Medical Officer, Newport Borough Asylum, Caerleon.
1896. Martin, James Charles, L.R.C.S.I., L.M., L.R.C.P., Assistant Medical Officer, District Asylum, Letterkenny, Donegal.
1908. Martin, James Ernest, M.B., B.S.Lond., M.R.C.S., L.R.C.P., Assistant Medical Officer, London County Asylum, Long-Grove, Epsom.
1907. Martin, Mary Edith, L.R.C.P.&S.Edin., L.F.G.S.Glas., L.S.A.Lond., Crowhurst, Land Farm, Dormansland, Surrey.
1904. May, George Francis, M.D., C.M. (McGill), L.S.A., Winterton Asylum, Ferryhill, Durham.
1907. Meek, Andrew Alexander Robertson, M.B., Ch.B. Glas., Assistant Medical Officer, Gartloch Asylum, Gartloch, Glasgow.
1890. Menzies, William F., M.D., B.Sc.Edin., M.R.C.P.Lond., Medical Superintendent, Stafford County Asylum, Cheddleton, near Leek.
1891. Mercier, Charles A., M.D.Lond., F.R.C.P., F.R.C.S.Eng., Lecturer on Insanity, Westminster Hospital; 34, Wimpole Street, W. (*PRESIDENT, 1908.*)
1877. Merson, John, M.A., M.D.Aber., Medical Superintendent, Borough Asylum, Hull.
1871. Mickle, William Julius, M.D., F.R.C.P.Lond., 69, Linden Gardens, Bayswater, W. (*PRESIDENT, 1896-7.*)
1893. Middlemass, James, M.A., M.D., C.M., B.Sc.Edin., F.R.C.P., Medical Superintendent, Borough Asylum, Ryhope, Sunderland.
1898. Middlemist, George Edwyn, M.B., Keelby, Brocklesby, Lincs.
1883. Miles, George E., M.R.C.P., &c., Medical Superintendent, Hospital for the Insane, Rydalmere, New South Wales.
1887. Miller, Alfred, M.B. and B.C.Dubl., Medical Superintendent, Hatton Asylum, Warwick. (*Registrar since 1902.*)
1904. Miller, James Webster, M.B., Ch.B.Aberd., Wonford House, Exeter.
1893. Mills, John, M.B., B.Ch., and Diploma in Mental Diseases, R.U.I. District Asylum, Ballinasloe, Ireland.
1881. Mitchell, Richard B., M.D., Medical Supt., Midlothian District Asylum.
1878. Moody, James M., M.R.C.S.Eng., L.R.C.P.&L.M.Edin., Medical Superintendent, County Asylum, Cane Hill, Coulsdon, Surrey.
1885. Moore, Edw. E., M.D.Dubl., M.P.C., Medical Superintendent, District Asylum, Letterkenny, Ireland.
1906. Moore, Francis Joseph, L.R.C.P.&S.Irel., Banstead Asylum, Sutton, Surrey.

1899. Moore, Wm. D., M.D., M.Ch., Medical Superintendent, Holloway Sanatorium, Virginia Water, Surrey.
1892. Morrison, Cuthbert S., L.R.C.P. and L.R.C.S.Edin., Medical Superintendent, County and City Asylum, Burghill, Hereford.
1896. Morton, W. B., M.D.Lond., Assistant Medical Officer, Brislington House, Bristol.
1896. Mott, F. W., M.D., B.Sc., B.S., F.R.C.P.Lond., F.R.S., Pathological Laboratory, London County Asylum, Claybury, Essex.
1896. Mould, Gilbert E., M.R.C.S., L.R.C.P.Lond., The Grange, Rotherham, Yorks.
1862. Mould, George W., M.R.C.S.Eng., Oakhurst, Colwyn Park, N. Wales. (PRESIDENT, 1880.)
1897. Mould, Philip G., M.R.C.S.Eng., L.R.C.P.Lond., Overdale, Whitefield, near Manchester.
1908. Muirhead, Winifred, L.R.C.P., L.R.C.S.Edin., Assistant Medical Officer, Stirling District Asylum, Larbert.
1907. Mules, Bertha Mary, M.B., B.S.Durh., Court Hall, Kenton, S. Devon.
1897. Mumby, Bonner Harris, M.D.Aber., D.P.H.Cantab., Medical Superintendent, Borough Asylum, Portsmouth.
1908. Munro, Macdonald, M.B., B.Ch.Glasg., Assistant Medical Officer, Earlswood Asylum, Redhill.
1893. Murdoch, James William Aitken, M.B., C.M.Glasg., Medical Superintendent, Berks County Asylum, Wallingford.
1900. Murphy, Jerome J., M.R.C.S., L.R.C.P.Lond., Banstead Asylum, Sutton, Surrey.
1878. Murray, Henry G., L.R.C.P.I., L.M., L.R.C.S.I., Assistant Medical Officer, Prestwich Asylum, Manchester.
1905. Murrell, Christine Mary, M.D.Lond., B.S., Royal Free Hospital, 86, Porchester Terrace, Hyde Park, W.
1903. Navarra, Norman, M.R.C.S., L.R.C.P., City Asylum, Stone, Dartford.
1880. Neil, James, M.D., M.P.C., Medical Superintendent, Warneford Asylum, Oxford.
1903. Nelis, William F., M.D., Newport Borough Asylum, Caerleon, Mon.
1875. Newington, Alexander, M.B.Camb., M.R.C.S.Eng., Woodlands, Ticehurst.
1873. Newington, H. Hayes, F.R.C.P.Edin., M.R.C.S.Eng., The Gables, Ticehurst, Sussex. (PRESIDENT, 1889.) (*Treasurer.*)
1869. Nicolson, David, C.B., M.D., C.M.Aber., M.R.C.P.Edin., F.S.A.Scot., 201, Royal Courts of Justice, Strand, W.C. (PRESIDENT, 1895-6.)
1893. Nobbs, Athelstane, M.D., C.M.Edin., Layton House, Putney, S.W., and 339, Queen's Road, Battersea Park.
1888. Nolan, Michael J., L.R.C.P.I., M.P.C., Medical Superintendent, District Asylum, Downpatrick.
1885. Oakshott, James A., M.D., Medical Superintendent, District Asylum, Waterford, Ireland.
1906. O'Brien, Mary, L.S.A., Differin Hospital, Lucknow, India.
1903. O'Doherty, Patrick, B.A. and M.B.Irel., District Asylum, Omagh.
1904. O'Downey, Augustine Francis, L.R.C.P. & S. Edin., Salop and Montgomery County Asylum, Bicton Heath, nr. Shrewsbury.
1901. Ogilvy, David, B.A., M.D., B.Ch., L.M.Dub., Senior Assistant Medical Officer, London County Asylum, Horton, nr. Epsom, Surrey.
1892. O'Mara, Francis, L.R.C.P.&S.I., District Asylum, Ennis, Ireland.
1886. O'Neill, Edward D., M.R.C.P.I., Medical Superintendent, The Asylum, Limerick.
1868. Orange, William, M.D.Heidelb., F.R.C.P.Lond., C.B., Oakhurst, Godalming, Surrey. (PRESIDENT, 1883.)

1907. O'Reilly, Arthur Edward, L.R.C.S. & P.I., L.M., Hopetown, Cape Colony.
1902. Orr, David, M.B., C.M.Edin., Pathologist, County Asylum, Prestwich, Lancs.
1899. Osburne, Cecil A. P., F.R.C.S.Edin., L.R.C.P.Edin., The Grove, Old Catton, Norwich.
1890. Oswald, Landel R., M.B., M.P.C., Physician Superintendent, Royal Asylum, Gartnavel, Glasgow.
1899. Owen, Corbet W., M.B., C.M.Edin., 31, Victoria Place, High Street, Bangor, North Wales.

1905. Paine, Frederick, M.R.C.S., L.R.C.P., Claybury Asylum, Woodford Bridge, Essex.
1907. Parker, James, L.R.C.S.&P. and L.M.Irel., Assistant Medical Officer, West Riding Asylum, Wakefield.
1898. Parker, William Arnot, M.B., C.M., Medical Superintendent, Gartloch Asylum, Gartcosh, N.B.
1898. Pasmore, Edwin Stephen, M.D.Lond., M.R.C.P.Lond., Croydon Mental Hospital, Warlingham, Surrey.
1899. Paton, Robert N., L.R.C.P., L.R.C.S.Edin., Medical Officer, H.M. Prison, Wormwood Scrubs, London, W.
1899. Patrick, John, M.B., Ch.B., District Asylum, Belfast.
1892. Patterson, Arthur Edward, M.D., C.M.Aber., Senior Assistant Medical Officer, City of London Asylum, Dartford.
1905. Paul, Maurice Eden, M.D.Bru.x., M.R.C.S., L.R.C.P., Moorcroft, Parkstone, Dorset.
1907. Peachell, George Ernest, M.B., B.S.Lond., M.R.C.S., L.R.C.P., Assistant Medical Officer, West Sussex County Asylum, Chichester.
1903. Pearce, Francis H., M.B., B.C.Cantab., Madeley Court, Salop.
1893. Perceval, Frank, M.R.C.S.Eng., L.R.C.P.Lond., Medical Superintendent, County Asylum, Prestwich, Manchester, Lancashire.
1878. Philipps, Sutherland Rees, M.D., C.M. Queen's Univ. Irel., F.R.G.S. (Address uncommunicated.)
1875. Philipson, Sir George Hare, M.D. and M.A.Cantab., F.R.C.P.Lond., 7, Eldon Square, Newcastle-on-Tyne.
1908. Phillips, John George, M.B., B.S.Lond., M.R.C.S., L.R.C.P., Assistant Physician, Bethlem Royal Hospital, Lambeth, S.E.
1906. Phillips, Nathaniel Richard, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, County Asylum, Abergavenny, Monmouthshire.
1905. Phillips, Norman Routh, M.D.Bru.x., M.R.C.S., L.R.C.P., St. Andrew's Hospital, Northampton.
1891. Pierce, Bedford, M.D.Lond., F.R.C.P., Medical Superintendent, The Retreat, York. (*Hon. Secretary N. and M. Division 190-8.*)
1888. Pietersen, J. F. G., M.R.C.S., Ashwood House, Kingswinford, near Dudley, Stafford.
1896. Planck, Charles, M.A.Camb., M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, The Asylum, Haywards Heath.
1889. Pope, George Stevens, L.R.C.P.&L.R.C.S.Edin., L.F.P.&S.Glasg., Medical Superintendent, Somerset and Bath Asylum, "Westfield," near Wells, Somerset.
1876. Powell, Evan, M.R.C.S.Eng., L.S.A., Medical Superintendent, Borough Lunatic Asylum, Nottingham.
1908. Prentice, Reginald Wickham, L.M.S.S.A.Lond., Beauworth Manor, Arlesford, Hants.
1904. Pringle, Archibald Douglas, Government Asylum, Pietermaritzburg, Natal, South Africa.
1875. Pringle, Henry T., M.D.Glasg., Hawtree, Ferndown, Wimborne.
1901. Pugh, Robert, M.D.Edin., Ch.B., Medical Superintendent, Brecon and Radnor Asylum, Talgarth, S. Wales.

1904. Race, John Percy, M.R.C.S., L.R.C.P., L.S.A., Joint Counties' Asylum, Carmarthen.

1908. Raffle, Andrew Banks, M.D., B.S.Durh., Westor Village, S. Shields.
1899. Rainsford, F. E., M.D., B.A., Resident Physician, Stewart Institute, Palmerston, co. Dublin.
1894. Rambaut, Daniel F., M.A., M.D.Univ. Dubl., Salop and Montgomery Asylum, Bicton Heath, Shrewsbury.
1902. Rattray, A. Mair, M.B., C.M.Edin., City Asylum, Gosforth, Newcastle-on-Tyne.
1889. Raw, Nathan, M.D., F.R.C.S., 66, Rodney Street, Liverpool.
1893. Rawes, William, M.D.Durh., F.R.C.S.Eng., Medical Superintendent, St. Luke's Hospital, Old Street, London, E.C.
1870. Rayner, Henry, M.D.Aberd., M.R.C.P.Edin., 16, Queen Anne Street, London, W. (PRESIDENT, 1884.) (*General Secretary*, 1878-89.) (*Co-Editor of Journal since 1895.*)
1903. Read, George F., L.R.C.S., L.R.C.P.Edin., Hospital for the Insane, New Norfolk, Tasmania.
1899. Redington, John, F.R.C.S.&L.R.C.P.I., A.M.O., Richmond Asylum, Dublin.
1887. Reid, William, M.D., Physician Superintendent, Royal Asylum, Aberdeen.
1886. Revington, George, M.D. and Stewart Scholar Univ. Dubl., M.P.C., Medical Superintendent, Central Criminal Asylum, Dundrum, Ireland.
1907. Reynolds, Ernest Septimus, B.Sc.Vict., M.D., F.R.C.P.Lond., 2, St. Peter's Square, Manchester.
1903. Rhodes, John Milson, M.D.Brux., L.R.C.P.&S.Edin., Ivy Lodge, Barlow Moor, Didsbury, Manchester.
1899. Rice, David, M.R.C.S., L.R.C.P., Medical Superintendent, City Asylum, Hillesdon, Norwich.
1897. Richard, William J., M.A., M.B., C.M.Glasg., Medical Officer, Govan Parochial Asylum, Merryflats, Govan.
1899. Richards, John, M.B., C.M.Edin., Joint Counties Asylum, Carmarthen.
1905. Ridley, Edward Hope, M.D.Edin., The Asylum, Portsmouth.
1904. Rigden, Alan, M.D.Durh., Salop and Montgomery Asylum, nr. Shrewsbury.
1907. Rivers, William Gregory, M.B., Ch.B.Edin., Assistant Medical Officer, Cornwall County Asylum, Bodmin.
1893. Rivers, William H. R., M.A., M.D.Lond., c/o C. H. Rivers, Esq., 11, Queen Victoria Street, E.C.
1903. Roberts, Norcliffe, M.B., B.S.Durh., London County Asylum, Cane Hill, Coulsdon, Surrey.
1905. Robertson, Constance C., M.D.Durh., B.S., Semmercote, Darlington.
1887. Robertson, Geo. M., M.B., F.R.C.P.Edin., Physician-Superintendent, Royal Asylum, Morningside, Edinburgh.
1908. Robertson, George Dunlop, L.R.C.S.&P.Edin., Assistant Medical Officer, Smithston Asylum, Greenock.
1895. Robertson, William Ford, M.D., C.M., 10, Morningside Terrace, Edinburgh.
1905. Robertson-Milne, Major Charles John, M.B., C.M.Aberd., 15, Leven Terrace, Edinburgh.
1900. Robinson, Harry A., M.D., Ch.B.Vict., 57, Canning Street, Liverpool.
1908. Rodgers, Frederick Millar, M.B., Ch.B.Vict., D.P.H., Senior Medical Officer, County Asylum, Winwick, Lancs.
1876. Rogers, Edward Coulton, M.R.C.S.Eng., L.S.A., County Asylum, Fulbourn, Cambridge.
1908. Rolleston, Charles Frank, B.A., M.B., Ch.B., B.A.O.Dub., Assistant Medical Officer, County of London, Manor Asylum, Epsom.
1895. Rolleston, Lancelot W., M.B., B.S.Durh., Medical Superintendent, Middlesex County Asylum, Napsbury, near St. Albans.

1879. Ronaldson, J. B., M.D.St.And., F.R.C.S. & L.R.C.P.Edin., D.P.H., Ennerdale, Haddington, N.B.
1879. Roots, William H., M.R.C.S., Caubury House, Kingston-on-Thames.
1899. Rorie, George Arthur, M.D., Ch.B.Edin., Senior Assistant Medical Officer, Dorset County Asylum, Dorchester.
1860. Rorie, James, M.D.Edin., L.R.C.S.Edin., 4, Roxburgh Terrace, West Park Road, Dundee. (*Late Hon. Secretary for Scotland.*)
1908. Roscoe, Henry, M.R.C.S., L.R.C.P., D.P.H.Vict., Assistant Medical Officer, Cheddleton Asylum, Staffs.
1888. Ross, Chisholm, M.D., 147, Macquarie Street, Sydney, New South Wales.
1905. Ross, Sheila Margaret, M.D., Ch.B.Edin., Assistant Medical Officer of Health, 43, Somerset Road, Huddersfield.
1899. Rotherham, Arthur, M.A., M.B., B.C.Cantab., Medical Superintendent, Darenth Asylum, Dartford, Kent.
1906. Rowan, Marriott Logan, B.A., M.D., R.M.I., Assistant Medical Officer, Derby County Asylum, Mickleover.
1884. Rowe, Edmund L., L.R.C.P.&S.Edin., Medical Superintendent, Borough Asylum, Ipswich.
1883. Rowland, E. D., M.B., C.M.Edin., The Public Hospital, George Town, Demerara, British Guiana.
1902. Rows, Richard Gundry, M.D.Lond., M.R.C.S., L.R.C.P., Pathologist, County Asylum, Lancaster.
1877. Russell, Arthur P., M.B., M.R.C.P.Edin., The Lawn, Lincoln.
1907. Rutherford, Henry Richard Charles, L.R.C.P.&S.Irel., L.M., St. Patrick's Hospital, James Street, Dublin.
1866. Rutherford, James, M.D.Edin., F.R.C.P.Edin., F.F.P.S.Glas., Mountain-hall, Dumfries. (*Hon. Secretary for Scotland, 1876-86.*)
1896. Rutherford, James Mair, M.B., C.M., M.R.C.P.Edin., Assistant Physician, Royal Edinburgh Asylum, Morningside.
1907. Rutherford, James Whigham, L.R.C.P.&S.I., L.M., Assistant Medical Officer, Catford Asylum, Taunton.
1896. Rutherford, Robert Leonard, M.D., Medical Superintendent, Digby's Asylum, Exeter.
1892. Rutledge, Victor J., M.B., District Asylum, Londonderry, Ireland.
1908. Rutledge, W. E., M.R.C.S., L.R.C.P.Lond., County Asylum, Wells, Somerset.
1902. Sall, Ernest Frederick, M.R.C.S.Eng., L.R.C.P.Lond., Medical Superintendent, Borough Asylum, Canterbury.
1908. Sammon, William Douglas, L.R.C.S.&P., L.M.Irel., Assistant Medical Officer, Richmond District Asylum, Dublin.
1908. Samuels, William Frederick, L.M.&L.S.Dubl., Assistant Medical Officer, Warwick County Asylum, Hatton.
1894. Sankey, Edward H. O., M.A., M.B., B.C.Cantab., Resident Medical Licensee, Boreatton Park Licensed House, Baschurch, Salop.
- * Sankey, R. H. Heurtley, M.R.C.S.Eng., 3, Marston Ferry Road, Oxford.
1873. Savage, Geo. H., M.D.&F.R.C.P.Lond., 26, Devonshire Place, W. (*Late Editor of Journal.*) (PRESIDENT, 1886.)
1906. Scanlan, John, L.R.C.S.Edin., 2B, Hyde Park Mansions, W.
1896. Scott, James, M.B., C.M.Edin., 19, Raleigh Gardens, Brixton Hill, London, S.W.
1889. Scowcroft, Walter, M.R.C.S., Medical Superintendent, Royal Lunatic Hospital, Cheadle, near Manchester.
1880. Secombe, George S., M.R.C.S., L.R.C.P., Port of Spain, Trinidad, W.I.
1879. Seed, William Hy., M.B., C.M.Edin., The Poplars, 110, Waterloo Road, Ashton-on-Ribble, Preston.

1906. Sephton, Robert Poole, B.A.Cantab., M.R.C.S.Eng., L.R.C.P.Lond., County Lunatic Asylum, Lancaster.
1882. Seward, William J., M.B.Lond., M.R.C.S., Medical Superintendent, Colney Hatch Asylum, London, N.
1901. Shaw, B. Henry, M.B., B.Ch., B.A.O., R.M.I., Assistant Medical Officer, County Asylum, Stafford.
1905. Shaw, Charles John, M.B., Ch.B., M.R.C.P.E., Medical Superintendent, Argyle and Bute Asylum, Lochgelhead.
1891. Shaw, Harold B., B.A., M.B., D.P.H.Camb., Medical Superintendent, Isle of Wight County Asylum, Whitecroft, Newport, Isle of Wight.
1904. Shaw, Patrick, L.R.C.P.&S.Edin., Medical Officer, Hospital for the Insane, Kew, Victoria, Australia.
- Shaw, T. Claye, M.D.Lond., F.R.C.P.Lond., 30, Harley Street, London, W.
1882. Sheldon, Thomas S., M.B., Medical Superintendent, Cheshire County Asylum, Parkside, Macclesfield.
1900. Shera, John E. P., M.D., Somerset County Asylum, Wells, Somerset.
1877. Shuttleworth, George E., M.D.Heidelb., M.R.C.S. and L.S.A.Eng., B.A. Lond., Parkholme, East Sheen, S.W. (*Late Medical Superintendent, Royal Albert Asylum, Lancaster.*)
1899. Sibley, Reginald Oliver, M.B.Lond., M.R.C.S., L.R.C.P., Assistant Medical Officer, London County Asylum, Cane Hill, Coulsdon, Surrey.
1901. Simpson, Alexander, M.A., M.D.Aber., Medical Superintendent, County Asylum, Winwick, Newton-le-Willows, Lancashire.
1905. Simpson, Edward Swan, M.B., Ch.B.Edin., East Riding Asylum, Beverley, Yorks.
1888. Sinclair, Eric, M.D.Glasg., Richmond Terrace, Demain, Sydney, New South Wales.
1891. Skeen, James Humphry, M.B., C.M.Aber., Medical Superintendent, Kirklands Asylum, Bothwell.
1898. Skeen, William St. John, M.B., C.M., County Asylum, Winterton, Ferryhill, Durham.
1900. Skinner, Ernest W., M.D., C.M.Edin., Mansfield, Rye, Sussex.
1901. Slater, George N. O., M.D., Assistant Medical Officer, Essex County Asylum, Brentwood.
1897. Smalley, Herbert, M.D.Durh., L.R.C.P., M.R.C.S., Prison Commission, Home Office, Whitehall, S.W.
1907. Smith, Ch. Mollyson, M.B., Ch.B.Aberd., Assistant Medical Officer, County Asylum, Prestwich, Manchester.
1905. Smith, George William, M.B., Holloway Sanatorium, Virginia Water, Surrey.
1907. Smith, Henry Watson, M.B., Ch.B., Assistant Medical Officer, Durham County Asylum, Winterton, Ferryhill.
1899. Smith, John G., M.D., Herts County Asylum, Hill End, St. Albans, Herts.
1904. Smith, Peter Campbell, M.D.Dunelm., L.R.C.P.&S.Edin., L.F.P.S.G., 4, Upper Grosvenor Road, Tunbridge Wells.
1885. Smith, R. Percy, M.D., B.S., F.R.C.P., M.P.C., 36, Queen Anne Street, Cavendish Square, W. (*General Secretary, 1896-7.*) (*PRESIDENT, 1904-5.*)
1884. Smith, W. Beattie, F.R.C.S.Edin., L.R.C.P.Lond., 4, Collins Street, Melbourne, Victoria.
1903. Smith, William Maule A., M.B., Ch.B.Edin., M.R.C.P.Edin., Senior Assistant Medical Officer, Worcester County Asylum, Barnsley Hall, Bromsgrove.
1901. Smyth, Robt. B., M.A., M.B., Ch.B., Senior Assistant Medical Officer, County Asylum, Gloucester.
1899. Smyth, Walter S., M.B., B.Ch., R.U.I., Assistant Medical Officer, County Asylum, Antrim.
1885. Soutar, James Grieg, M.B., Barnwood House, Gloucester.
1906. Spark, Percy Charles, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, The Colony, Ewell, Surrey.

1883. Spence, John Buchan, M.D., M.C., The Asylum, Colombo, Ceylon.
1875. Spence, J. Beveridge, M.D., M.C. Queen's Univ., Medical Superintendent, Burntwood Asylum, near Lichfield. (PRESIDENT, 1899-1900, formerly Registrar.)
1891. Stansfield, T. E. K., M.B., C.M. Edin., Baldwyn's Park, Bexley, Kent.
1901. Starkey, William, M.B., B.Ch., B.A.O. Roy. Univ. Irel., Assistant Medical Officer, Lancashire County Asylum, Prestwich, near Manchester.
1907. Steele, Patrick, M.B., Ch.B. Edin., Assistant Medical Officer, Edinburgh District Asylum, Bangour, Uphall.
1898. Steen, Robert H., M.D. Lond., Medical Superintendent, City of London Asylum, Stone, Dartford. (*Hon. Sec. S.E. Division since 1905.*)
1905. Stewart, Frederick William, B.A., M.D., B.Ch., B.A.O.I., Dipl. Ment. Dis., R.U.I., Kent County Asylum, Barming Heath, near Maidstone.
1907. Stewart, Helen C., M.B., Ch.B. Birm., 33, Park Square, Leeds.
1868. Stewart, James, F.R.C.P. Edin., L.R.C.S. Irel., Junior Constitutional Club, Piccadilly, S.W.; 48, South Hill Park, Hampstead Heath.
1887. Stewart, Rothsay C., M.R.C.S., Leicestershire and Rutland Asylum, Narborough, near Leicester.
1905. Stilwell, Henry Francis, L.R.C.P. & S.E., Barnwood House, Gloucester.
1862. Stilwell, Henry, M.D. Edin., M.R.C.S. Eng., Hanover Lodge, Compton Street, Eastbourne.
1899. Stilwell, Reginald J., M.R.C.S., L.R.C.P., Moorcroft House, Hillingdon, Middlesex.
1864. Stocker, Alonzo Henry, M.D. St. And., M.R.C.P. Lond., M.R.C.S. Eng., Medical Superintendent, Peckham House Asylum, Peckham.
1897. Stoddart, William Henry Butter, M.D., B.S. Lond., M.R.C.S. Eng., M.R.C.P. Lond., Bethlem Royal Hospital, London, S.E.
1905. Strathearn, John, M.B., Ch.B., British Ophthalmic Hospital, Jerusalem.
1903. Stratton, Percy Haughton, M.R.C.S., L.R.C.P. Lond., The Royal Societies Club, St. James's Street, S.W.
1885. Street, C. T., M.R.C.S., L.R.C.P., Haydock Lodge, Ashton, Newton-le-Willows, Lancashire.
1908. Stuart, Francis Arthur Knox, L.S.A. Lond., Assistant Medical Officer, West Sussex Asylum, Chichester.
1900. Sturrock, James Prain, M.A., M.B., C.M. Edin., Midlothian and Peebles Asylum, Rosslynlee, N.B.
1886. Suffern, Alex. C., M.D., Medical Superintendent, Ruberry Hill Asylum near Bromsgrove, Worcestershire.
1894. Sullivan, William C., M.D. R.U.I., 440, Camden Road, N.
1898. Sutcliffe, John, M.R.C.S., L.R.C.P., Royal Asylum, Cheadle, near Manchester.
1895. Sutherland, John Francis, M.D. Edin., Deputy Commissioner in Lunacy, Scotsburn Road, Tain, Scotland.
1877. Swanson, George I., M.D. Edin., The Pleasaunce, Heworth Moor, York.
1901. Sykes, Arthur, M.R.C.S., L.R.C.P., Wentworth, Wallington, Surrey.
1897. Tait, James Sinclair, M.D., L.R.C.P. Lond., F.R.C.S. Edin., L.R.C.P. Edin., D.P.H. Edin., R.C.P.S. Edin., F.P.S. Glasg., Medical Superintendent, Hospital for Insane, St. John's, Newfoundland.
1904. Tate, Robert George H., M.D., D.P.H., Lt. R.A.M.C., c/o Messrs. Holt & Co., 3, Whitehall Place, S.W.
1857. Tate, William B., M.D. Aber., M.R.C.P. Lond., M.R.C.S. Eng., Medical Superintendent, Lunatic Hospital, The Coppice, Nottingham.
1908. Tattersall, John, M.R.C.S., L.R.C.P. Lond., Assistant Medical Officer, London County Asylum, Hanwell, W.
1897. Taylor, Frederic Ryott Percival, M.D., B.S. Lond., M.R.C.S. Eng., L.R.C.P. Lond., Medical Superintendent, East Sussex Asylum, Hellingly.

1908. Thomas, Joseph D., M.B., B.C.Cantab., Northwoods House, Winterbourne, Bristol.
1904. Thompson, Alexander D., M.B., Ch.B.Glasg., North Riding Asylum, Clifton, Yorks.
1880. Thomson, David G., M.D., C.M., Medical Superintendent, County Asylum, Thorpe, Norfolk.
1903. Thomson, Herbert Campbell, M.D., F.R.C.P.Lond., Assist. Physician Middlesex Hospital, 34, Queen Anne Street, W.
1905. Thomson, James Hutcheon, M.B., Ch.B.Aberd., Powick Asylum, Worcester.
1905. Tidbury, Robert, M.D., R.U.I., M.Ch., L.M., The Borough Asylum, Ipswich.
1901. Tighe, John V. G. B., M.B., B.Ch., B.A.O.Irel., North Riding Asylum, Clifton, Yorks.
1900. Tinker, William, M.R.C.S., L.R.C.P. (Travelling.)
1898. Todd, Percy Everard, M.B., The Danes, North Road, Basingstoke.
1903. Topham, J. Arthur, B.A.Cantab., M.R.C.S.&P.Lond., County Asylum, Chartham, Kent.
1896. Townsend, Arthur A. D., M.D., Assistant Medical Officer, Hospital for Insane, Barnwood House, Gloucester.
1904. Treadwell, Oliver Ferreira Naylor, M.R.C.S.Eng., L.S.A., H. M. Prison, Parkhurst, I. of W.
1903. Tredgold, Alfred F., M.R.C.S., L.R.C.P., 6, Dapdune Crescent, Guildford, Surrey.
1902. Trevelyan, Edmund Fauriel, M.D.Lond., F.R.C.P.Lond., Assistant Physician to the Leeds General Infirmary, 40, Park Square, Leeds.
1881. Tuke, Charles Molesworth, M.R.C.S.Eng., Chiswick House, Chiswick.
1888. Tuke, John Batty, jun., M.D., F.R.C.P.Edin., Resident Physician, Saughton Hall, Edinburgh; Linden Lodge, Loanhead, Midlothian.
1885. Tuke, T. Seymour, M.A., M.B., B.Ch., M.R.C.S.E., Chiswick House, Chiswick, W.
1877. Turnbull, Adam Robert, M.B., C.M.Edin., Medical Superintendent, Fife and Kinross District Asylum, Cupar. (*Late Hon. Secretary for Scotland.*)
1906. Turnbull, Peter Mortimer, M.B., B.Ch.Aberd., Tooting Bec Asylum, Tooting, S.W.
1889. Turner, Alfred, M.D., C.M., Plympton House, Plympton, S. Devon.
1906. Turner, Frank Douglas, M.B.Lond., M.R.C.S., L.R.C.P., Medical Officer, Eastern Counties Asylum for Idiots, Colchester.
1890. Turner, John, M.B., C.M.Aberd., Senior Assistant Medical Officer, Essex County Asylum, Brentwood.
1903. Turner, Oliver P., M.R.C.S., L.R.C.P., St. Saviour's Road, St. Leonards-on-Sea, Sussex.
1878. Urquhart, Alex. Reid, M.D., F.R.C.P.E., Physician Superintendent, James Murray's Royal Asylum, Perth. (*Co-Editor of Journal since 1894.*) (*Hon. Secretary for Scotland, 1886-94.*) (*PRESIDENT, 1898-9.*)
1907. Urquhart, Annie Davidson, M.B., B.Ch.Edin., Assistant Medical Officer, Northumberland County Asylum, Morpeth.
1908. Vidler, Albert Edward, M.R.C.S., L.R.C.P.Lond., L.S.A., Medical Officer, Ashford District, Staines Union, Studholme, Ashford, Middlesex.
1904. Vincent, George A., M.B., B.Ch.Edin., Assistant Medical Superintendent, St. Ann's Asylum, Trinidad, B.W.I.
1894. Vincent, William James, M.B.Durh., Assistant Medical Officer, Wadsley Asylum, near Sheffield.
1908. Wallace, John Andrew Leslie, M.B., Ch.B.Edin., M.P.C., Assistant Physician, Crichton Royal Institution, Dumfries.
1908. Walker, Harry Victor, L.R.C.P.I., L.M., L.S.A., 2, Acres Street, Wandsworth Common.
1884. Walker, Edw. B. C., M.D., C.M.Edin., Medical Superintendent, East Sussex Asylum, Haywards Heath.

1896. Walker, William F., L.R.C.S.&L.M.Edin., L.S.A.Lond., Plas-yn-Dinas, Dinas Mawddwy, Merionethshire.
1900. Walters, John Basil, M.R.C.S.Eng., L.R.C.P.Lond., 9, Park Crescent, W.
1889. Warnock, John, M.D., C.M., B.Sc., Abassia, nr. Cairo, Egypt.
1895. Waterston, Jane Elizabeth, M.D.Bru., L.R.C.P.I., L.R.C.S.Edin., 85, Parliament Street, Box 78, Cape Town, South Africa.
1902. Watson, Frederick, M.B., C.M.Edin., The Grange, East Finchley, London, N.
1891. Watson, George A., M.B., C.M.Edin., M.P.C., Lyons House, Rainhill, Liverpool.
1908. Watson, Hugh Ferguson, L.R.C.S.&P.Edin., Senior Assistant Physician, District Asylum, Ayr.
1885. Watson, William Riddell, L.R.C.S. and L.R.C.P.Edin., Govan District Asylum, Hawkhead, Paisley.
1897. Welsh, Gilbert Aitken, M.D., C.M.Edin., The Crescent, Garliestown, N.B.
1880. West, George Francis, L.R.C.P.Edin., Medical Superintendent, District Asylum, Kilkenny, Ireland.
1872. Whitcombe, Edmund Banks, M.R.C.S., Medical Superintendent, Winson Green Asylum, Birmingham. (PRESIDENT, 1891.)
1884. White, Ernest William, M.B.Lond., M.R.C.P.Lond., Ferndale, Sevenoaks. (*Hon.Sec. South-Eastern Division*, 1897-1900.) (PRESIDENT 1903-4.)
1905. White, Robert George, M.A., M.B., B.Sc., Ch.B., Pathological Department, School of Medicine, Cairo, Egypt.
1903. Whittingham, George M., M.R.C.S., L.R.C.P., West Ham and East London Hospital, Stratford, E.
1905. Whittington, Richard, M.A., M.D., 1, Sillwood Place, Brighton, Sussex.
1889. Whitwell, James Richard, M.D. and C.M., Medical Superintendent, Suffolk County Asylum, Melton Woodbridge.
1903. Wigan, Charles Arthur, M.D.Durh., M.R.C.S.Eng., Deepdene, Portishead, Somerset.
1883. Wiglesworth, Joseph, M.D., F.R.C.P.Lond., Rainhill Asylum, Lancashire. (PRESIDENT, 1902-3.)
1895. Wilcox, Arthur William, M.D., C.M.Edin., Assistant Medical Officer, County Asylum, Hatton, Warwick.
1900. Wilkinson, H. B., M.R.C.S., L.R.C.P., Assistant Medical Officer, Plymouth Borough Asylum, Blackadon, Ivybridge, South Devon.
1887. Will, John Kennedy, M.A., M.D., C.M., Bethnal House, Cambridge Road, N.E.
1907. Williams, Charles E. C., B.A., M.B., B.Ch.Dubl., Assistant Medical Officer, Holloway Sanatorium, Virginia Water, Surrey.
1905. Williams, David John, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, The Asylum, Kingston, Jamaica.
1904. Wilson, Geoffrey Plumptre, M.R.C.S., L.R.C.P.Lond., Kesteven Asylum, Sleaford, Lincs.
1897. Winder, W. H., M.R.C.S., L.R.C.P.Lond., D.P.H.Cantab., Deputy Medical Officer, H.M. Convict Prison, Aylesbury.
1875. Winslow, Henry Forbes, M.D.Lond., M.R.C.P.Lond., 29, Belsize Square, S. Hampstead, N.W.; and Little Combe, Charlton.
1899. Wolseley-Lewis, Herbert, M.D.Bru., F.R.C.S.Eng., Medical Superintendent, Kent County Asylum, Barming Heath, Maidstone.
1904. Wood, Martin Stanley, M.B., Ch.B.Vict., Royal Asylum, Cheadle, Cheshire.
1869. Wood, T. Outtersen, M.D., M.R.C.P.Lond., F.R.C.P., F.R.C.S.Edin., 40, Margaret Street, Cavendish Square, W. (PRESIDENT, 1905-6.)
1885. Woods, J. F., M.D., M.R.C.S., 7, Harley Street, Cavendish Square, W.
1900. Worth, Reginald, M.R.C.S., L.R.C.P., Middlesex Asylum, Tooting, S.W.

1862. Yellowlees, David, LL.D., M.D.Edin., F.F.P.S.Glasg., 6, Albert Gate
Dowan Hill, Glasgow. (PRESIDENT, 1890.)

ORDINARY MEMBERS	...	...	...	...	652
HONORARY MEMBERS	...	...	...	...	29
CORRESPONDING MEMBERS	...	...	...	...	15
Total	...	...	...	...	696

*Members are particularly requested to send changes of address, etc., to Dr.
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Cavendish Square, London, W., and in duplicate to the Printers of the
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OBITUARY.

Honorary Member.

1873. Pitman, Sir Henry A., M.D.Cantab., F.R.C.P.Lond., of Enfield, Middlesex.

Members.

1874. Cameron, John, M.D.Edin., of Lochgilphead.
1893. Garth, Henry C., M.B., C.M.Edin., of Chowringee, Calcutta, India.
1907. Gloag, Alfred M., M.B., Ch.B.Edin., of Barnton Terrace, Edinburgh.
1885. Henley, Edward W., M.R.C.S., L.R.C.P., of Barnwood, Gloucester.
1905. Jackson, Arthur Molyneux, M.D.Oxon., of Radcliffe-on-Trent.
1897. Marshall, John, M.B., C.M.Glasg., of Edinburgh.
1880. Norman, Conolly, F.R.C.P.I., M.D.Dubl., of North Circular Road,
Dublin, Ireland. (*Hon. Secretary for Ireland, 1887—1894.*)
(PRESIDENT, 1894—5.) (*Co-Editor of Journal since 1895.*)
1871. Robertson, Alexander, M.D.Edin., of Woodside Crescent, Glasgow.
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1877. Worthington, Thomas Blair, M.A., M.D., and M.C.Triu. Coll., Dubl.,
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List of those who have passed the Examination for the Certificate of Efficiency in Psychological Medicine, entitling them to append M.P.C. (Med.-Psych. Certif.) to their names.

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|---------------------------------|---------------------------|
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| Adkins, Percy, R. | Cook, William Stewart. |
| Ainley, Fred Shaw. | Cooper, Alfred J. S. |
| Ainslie, William. | Cope, George Patrick. |
| Alexander, Edward H. | Corner, Harry. |
| Anderson, A. W. | Cotton, William. |
| Anderson, Bruce Arnold. | Couper, Sinclair. |
| Anderson, John. | Cowan, John J. |
| Andriezen, W. | Cowie, C. G. |
| Armour, E. F. | Cowie, George. |
| Attegalle, J. W. S. | Cowper, John. |
| Aveline, H. T. S. | Cox, Walter H. |
| Ballantyne, Harold S. | 8 Craig, M. |
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| Barker, Alfred James Glanville. | Crills, G. H. |
| Bashford, Ernest Francis. | Cross, Edward John. |
| Begg, William. | Cruickshank, George. |
| Belben, F. | Cullen, George M. |
| Bird, James Brown. | Cunningham, James F. |
| Blachford, J. Vincent. | Dalgetty, Arthur B. |
| Black, E. J. | Davidson, Andrew. |
| Black, Robert S. | Davidson, William. |
| Black, Victor. | 6 Dawson, W. R. |
| Blackwood, John. | De Silva, W. H. |
| Blandford, Henry E. | Distin, Howard. |
| 7 Bond, C. Hubert. | Dixon, J. F. |
| Bond, R. St. G. S. | Donald, Wm. D. D. |
| Bowlan, Marcus M. | Donaldson, R. L. S. |
| Boyd, James Paton. | Donellan, James O'Connor. |
| Bristowe, Hubert Carpenter. | Douglas, A. R. |
| Brodie, Robert C. | Downey, Augustine. |
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| Campbell, Alex Keith. | Elkins, Frank A. |
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| Campbell, Peter. | English, Edgar. |
| Carmichael, W. J. | Eustace, J. N. |
| Carruthers, Samuel W. | Eustace, Henry Marcus. |
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| Clarke, Robert H. | Falconer, James F. |
| Clayton, Frank Herbert A. | Farquharson, Wm. Fredk. |
| Clayton, Thomas M. | Fennings, A. A. |
| Clinch, Thomas Aldous. | Ferguson, Robert. |
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| Collie, Frank Lang. | Fitzgerald, Gerald. |
| Collier, Joseph Henry. | Fleck, David. |
| Conolly, Richard M. | Fortune, J. |

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 Fraser, Thomas.
 Frederick, Herbert John.
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 Gawn, Ernest K.
 Gemmell, William.
 Genney, Fred. S.
 Gibb, H. J.
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 Goldie, E. M.
 Goldschmidt, Oscar Bernard.
 Goodall, Edwin.
 Graham, Dd. James.
 Graham, F. B.
 Grainger, Thomas.
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 Grant, Lacklan.
 Gray, Alex. C. E.
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 Halsted, H. C.
 Haslam, W. A.
 Haslett, William John Handfield.
 Hassell, Gray.
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 Henderson, P. J.
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 Hitchings, Robert.
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 5 Macnaughton, Geo. W. F.
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- Pearce, Walter.
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 Simpson, John.
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 Soutar, James G.
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 Wickham, Gilbert Henry.
 Will, John Kennedy.
 Williams, D. J.
 Williamson, A. Maxwell.
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 Wilson, James.
 Wilson, John T.
 Wilson, Robert.
 Wood, David James.
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 Yeates, Thomas.
 Yeoman, John B.
 Young, D. P.
 Younger, Henry J.
 Zimmer, Carl Raymond.

- 1 To whom the Gaskell Prize (1887) was awarded.
 2 To whom the Gaskell Prize (1889) was awarded.
 3 To whom the Gaskell Prize (1890) was awarded.
 4 To whom the Gaskell Prize (1892) was awarded.
 5 To whom the Gaskell Prize (1895) was awarded.
 6 To whom the Gaskell Prize (1896) was awarded.
 7 To whom the Gaskell Prize (1897) was awarded.
 8 To whom the Gaskell Prize (1900) was awarded.
 9 To whom the Gaskell Prize (1901) was awarded.
 10 To whom the Gaskell Prize (1906) was awarded.

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Part I.—Original Articles.

The Physical Basis of Consciousness. By H. MAUDSLEY,
M.D.

THE body is a vital union and communion of an infinite multitude of differentiated cells which constitute its different tissues and organs, their several functions intimately co-ordinated to serve the functions of a bodily whole ; so many diversities in unity, unity in so many diversities, which is just what all nature is, what all science, when perfect, must needs be, what every well-fashioned mental organisation ought to be.

The combination of individual elements in most intricate and complex structure proportionately—that is *rationally*—adapted to a whole end is effected without conscious co-operation, a purely vital work, yet a work which, were it accompanied by consciousness, we must needs think done with marvellous intelligence and skill. With an intelligence, indeed, which the best conscious intelligence cannot overtake, much less expound mathematically, or match practically in its workshops ; for the swift-wheeling swallow on the wing excels, and is long likely to excel, the cumbrous flying-machine. The Power which with admiring awe the Psalmist conceived to have fashioned him in the womb and to have foreseen all his members when there was yet none of them, is the same organic power that has fashioned the ingenious mechanisms of flower-fertilisation, the admirable architecture of the beehive, the social industry and devotion of “the parsimonious emmet.” To speak of the body as an

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instrument worked by an in-dwelling spirit, so comparing it to a mechanical instrument which a man handles, is therefore much misleading. An organism is a most complex fabric which makes itself, keeps itself in being and repair for the term of its natural life, performs its various functions with apparent spontaneity. In it are contained, and by it displayed, all the qualities of intelligence and will except self-consciousness.

As ascent is made gradually in the scale of life from low to highest organisms, unconscious rises imperceptibly into conscious intelligence, reaching its utmost evolution in the highest or human organism. Now, in this passage from purely organic life to the life of sensory and motor relations with the external world, a like constructive intelligence is displayed in the organisation of a series of nervous complexes in the brain to perform perceptions, conceptions and judgments to that which works intelligently in the organisation of the lower nervous centres and the inferior organs of the body. By purely vital work is the exquisitely delicate and complex mental organisation formed, in whose fine-wrought and biochemically condensed structure are not only representations of the various organic functions, but also silent memories of all experiences made in the life of adaptive relation to the external world of men and things, these never forgotten organically, however consciously forgotten ; for let metaphysical fancy sport as it will in transcendental regions, the business of positive science is not with an abstract predetermining entity, but with a concrete mental organisation which has been fashioned gradually by the conditions and experiences of human life through the ages. The work is done unconsciously and a resultant consciousness is its reflective illumination ; mind the product of life in mind, and, delivering thought from the hampering bondage of words, of mind in life ; for there is mind in life as there is life in mind. To conceive and fabricate a poor poem is, after all, a less intelligent work than to fabricate a fly or a flea, although the neurotic poet thinks differently, just because he feels the ecstatic rapture of a productive discharge, and like-minded persons catch and enjoy a sympathetic infection.

In the motions of the fly which, whisking about among objects in its swift flight hither and thither, easily avoids them, and deftly settles where it wishes to settle ; in the sprightly motions of the bird flitting from branch to branch of a tree, or

pursuing with quick turns and twists of flight the insect which it captures with precise aim ; in the agile movements of the arboreal monkey leaping from branch to branch of tree after tree with just estimate of the amount and direction of the exact force needed to reach and grasp the support aimed at, failing which it would fall with uncalculated crash to the ground ; in these and multitudes of similar animal performances are contained elements of infinitely minute and exquisitely balanced proportions, which, were they set forth duly in formulæ of conscious ratios, would be a series of successfully solved mathematical problems : the mathematics of nature which, when he becomes conscious of them in himself, man is so mightily proud of. The ratio or proportion in structure reveals itself in the reason of the function, the unconsciously intelligent doing in the conscious intelligence of thought.

To see things clearly and distinctly as they are, it might be wise to eliminate from the actual work of intelligence the abstraction made into an entity called consciousness, to purge the mind, if possible, of its traditional implications. A nowise easy task, seeing that psychological language is infected with metaphysical notions which inevitably vitiate a scientific use of it and much hinder direct perception and unbiassed thought. There is really no such abstract and constant existence as consciousness, no consciousness apart from each particular state of consciousness, special consciousnesses being as many and diverse as the diverse perceptions, thoughts and feelings ; no consciousness, in fact, but many consciousnesses, just as there is no one conscience but many consciences. To speak of consciousness as an agent doing this or that, governing and directing, is fallacious if not absurd ; even to think of a mental state as rising above its threshold, as if consciousness were a constant and serene region illumining particular mental states, hinders rather than helps a right understanding of things.

That consciousness is an ultimate mental fact and that human beings could not feel and know as they do without it is, of course, a truism, although it is no less true that everybody is and thinks a great deal more than he is ever conscious of ; but the consciousness is neither self-caused nor self-subsistent, it is always the attendant and exponent of the particular mental state which kindles it. The consciousness of a saint is of different quality and dignity from that of the sinner or the

savage, because the mental contents of the one are very different from those of the other. If an insane person is positively certain that he sees an enemy tracking him where no enemy is, or hears a voice threatening him when there is no voice, yet cannot be brought by the concurrent and consistent testimony of everybody about him and the plain physical impossibility of what he imagines even so much as to doubt the testimony of his own consciousness, it is because his consciousness shares in the derangement of the mental state which it mirrors when that state is active; for when that is not active he is not conscious of his enemy's presence or plots, but thinks and acts like any sane person. In like manner, when a person not insane claims the infallible testimony of his individual consciousness to a spiritual intuition transcending or actually contradicting reason, the authority which he invokes is just the special sublimated feeling exalting him then and there, be its value great or small. Were his nervous system perchance poisoned by a depressing toxin the urgent testimony of intuition might be a conviction of unpardonable sin and eternal damnation. In that sad case the pious priest or pastor who has sincerely preached to his congregation the duty of a steadfast faith and unfaltering trust in a divine order of things incontinently hangs or drowns himself, the inexorable logic of feeling springing from a low nervous vitality resistlessly sweeping away all the reasoned logic of theory.

Much deeper source has feeling than reason; for while reason represents the formulated ratios of adaptive relations to the very limited part of the universe with which man's senses bring him into relation, feeling goes back to a unity of universal being which is far beyond the scope of rational relations. Mankind would never have made the progress in evolution which it has made had it always acted rationally. Because the particular state of consciousness reflects the particular motions—swift or sluggish—of thought and feeling, therefore it is that man is now an elated being striking the stars with his sublime head, and now a miserable creature dragging through a weary round in a wretched show. The one end of all life being to live, to keep up its particular being as long and as well as it can in converse and conflict with surrounding forces which always threaten, often hurt, and finally end it, its abject declension naturally and necessarily weakens or destroys vital zest and reactive energy,

extinguishes the will to live. So it comes to pass that despairing melancholia and life-weary old age shrink not from, if they do not actually covet, the ending of mortality. If the individual life which is only suffering and sorrow feels it hard to tolerate its own continuance, that, after all, is no great matter, seeing that the instinct of life, ever fresh and strong in the species, provides surely for human continuance.

Having discarded the notion of an abstract and constant consciousness, the question is what happens when mental work becomes conscious. Forasmuch as it is now generally admitted, although the notion was long derided, that mind exists and works unconsciously, the necessary inference is that consciousness is not of the essence of mind but incidental to its work. That we are not conscious of the various functions of the organic life of the body which go on in quiet harmony with the nicest adaptations of means to end throughout its complex mechanism is presumably because they have no direct relations with the external world but are practically self-contained within their own domain, their rhythmical relations being mainly with one another. They need, it is true, food and air from without to nourish and sustain them—like all life postulate the essential co-operation and incorporation of external nature—but these they get indirectly from the liquid medium in which every element of them is bathed. The life of relation on the other hand is accompanied by consciousness and by fuller and more vivid consciousness the more special and complex it is. Plainly, then, consciousness comes into being somehow out of that relation—from the reflections seemingly which go on between the individual creature and its environments as it adapts itself to it and adapts it to itself, waxing with the progressive increase of reflections in the ascending scale of animal life to its highest expressions in man, and waning in the descending scale to the positive unconsciousness of mere tissue irritability. The completer the individuation, the more, that is, the individual offshoots grow into special and complex being, the clearer and more distinct is the consciousness. One can hardly imagine the *amœba* to feel in the sense of being conscious that it feels, although it has evidently a sensibility below conscious sense, any more than the fitly-tuned receiver of a wireless telegram, or even believe a jelly-fish and sundry higher creatures in the animal scale to have

more than a general feeling of ease or unease with such instinctive motor reactions as accompany the purely organic functions in man. Yet adaptive rhythmical reactions to impressions take place in low organisms just as they do in the delicate elements of the cerebro-mental organisation when perception is performed and, thought answering reflectively to thought, we speak of conscious choice ⁽¹⁾.

As consciousness springs from the individual life of relation, it naturally dawns dimly and brightens gradually in its particular human development. There is a brief period at the beginning of its life when the infant is unconscious of anything but a few sensations, and a longer period elapses before it is conscious of the outer world as distinct from itself ; indeed, for some time the child ascribes a sort of life like its life to non-living things, being instinct, perhaps, with a sense of its fundamental unity with Nature before it is much individuated, without ever being separated from it ; and it is only with the increase of its sensori-motor relations in the process of action and reaction that it gradually learns to distinguish one thing from another and itself from other things, thus steadily building up a self. In the first instance it would grasp a red-hot bar of iron as eagerly as a stick of red sealing-wax ; but the different sensations of pain to be eschewed and of pleasure to be pursued soon teach discrimination and excite answering intellectual consciousness. Thus it is, after the instruction of experience, that when the object is present to sight the impression is reflected in the child's brain, and it is taught to do or to forbear ; whereupon we are in the habit of saying that the child reflects, just as though it were a separate something behind its own brain. To live and grow individually the organism cannot but choose and assimilate what suits and pleases, reject what hurts and displeases, so continually making discriminating reflections ; the choice not a matter of predeter-

⁽¹⁾ The trouble in thinking on these adapted reactions comes from imagining that they cannot occur without some kind of consciousness because similar reactions occur in ourselves consciously. One might, of course, in like manner imagine that the adaptive movements of the viscera were accompanied by some kind of consciousness. But that would simply be to destroy the meaning of the word consciousness, and to give it no definite meaning. What it seems necessary to realise is that rhythmical impressions and reactions occur as properties of the simplest living matter ; that they are more complex in the various organic rhythms of the diverse inter-related organs ; that they do not need consciousness, although consciousness needs them ; that they become conscious when in the complications of organic structure and their nervous inter-communications certain reflections of them take effect.

mining consciousness but an elective attraction or rejective repulsion of its nature. By experience it is that consciousness is thus evolved and progressively raised in quality and dignity; such development being just the brief abstract of that which has gone on by long detail in the birth and development of consciousness through the ages of ascending animal life. Rise is made from the simple action and reaction of living protoplasm which is called irritability—it might even be called sensibility⁽²⁾—to the simplest supposed sensation and its direct reaction, thence to the union of sensations in perception with its more complex reactions and answering more compound consciousness, and finally to the complexity of reflective inter-relations whose reactions are most richly and fully conscious.

In this connection it is of course evident that other human beings, with their thoughts, feelings and doings, constitute a vastly important part of the interaction between the man and his environment and the therefrom ensuing consciousnesses. By the reflection of himself in others he becomes self-conscious; were he not closely kin to them, but he and they mutually insensible, he would remain humanly unconscious of himself; only by converse with that which is not self does self differentiate itself consciously. Neither virtue nor beauty would be self-conscious but for their reflection or reverberation in other selves. And in no case does the single person respond to the manifold varieties of human influence; his nature reacts only to those impressions which it is constitutionally fitted to reflect; not otherwise perhaps than as the various colours of flowers declare their special structural reflections of the different waves in a beam of white light.

Vital elements of an organism apparently work together much as individuals do in a social state. No state was ever constructed theoretically on *à priori* grounds of reason; the *à posteriori* facts of human feelings and doings would soon shatter any fabric so artificially built. The stable state has grown gradually as a living structure by organic adaptations of experience, conscious systematisation being a consequence. Analysis, in order to discriminate and react fitly to more special impressions, and subsequent synthesis in order to combine results into successfully higher unities of perception, conception and will—

(2) Sensibility and irritability are convenient divisions in language if not in thought; they do not mark a division in nature.

that is the fundamental law of progressive mental organisation in communities as in individuals. The process is developmental : first, synergy, or working together ; next, *consentience*, or feeling together ; then *consciousness*, or knowing together ; synergies, consentiences and consciousnesses becoming more special and complex as the organisation advances in specialty and complexity of structure.

Conscience itself is a further natural evolution. It blossoms in the self from the knowing and feeling with other selves, the knowing being not of things only, but of other like beings and their relations to it and its relations to them in a social system. Action with regard to physical objects is simply conscious, right and rational or wrong and irrational ; with regard to human objects who feel and respond sympathetically its consciousness is social or moral, and therefore called righteous or unrighteous. Naturally and necessarily therefore conscience differs much in different ages, nations, places and persons according to the sanctioned standard of right and wrong, which is far from uniform. Inasmuch as it is tinged with feeling, is more than the "dry light" of reason it obeys the physiological law of mental organisation ; the fusion of a special class of associated ideas respecting thought and conduct in a particular order of circumstances developing a corresponding emotional feeling which is, as it were, the effluence or fragrance of it, if it be fragrant, which is nowise always the case.

When a number of persons join together in a society, sect, union or corporation or the like having its special aims, interests and operations, there evolves imperceptibly an answering corporate consciousness which is something more than, and different from, the particular consciousness of each individual who goes to form it ; a consciousness which is the result of the inter-feelings and inter-workings for a common purpose of the individual consciousnesses. The familiar saying that a corporation has no conscience is in great measure true, for an individual member of it sanctions without qualm or shame that which he would hesitate or shrink from doing on his own account ; his sense of responsibility is weakened by the division or dispersion of responsibility, because his consciousness, merged into the corporate consciousness, sheds poor light on his personal obligation. He cannot well have a keen and tender conscience when he is little, or not at all, conscious of

it. At any rate, when a person puts his conscience into his pocket, it notoriously stays there very quietly, making no serious attempt to get out. Observation, viewing impartially the human drama, past and present, might not unjustly conclude that as man has been the greatest enemy of man, so Christian sects have been the greatest enemies of Christianity, notwithstanding that its essential principle is human brotherhood and brotherly love. A national consciousness, again, is far from being a national conscience; the conscience of one nation when its interests conflict with those of another nation is apt to be a complete abnegation of conscience; and the individual components of a frantic and howling mob, not quite fools singly, lose all sense of right and wrong and are monstrously irrational.

As metaphysical psychology has made mighty use of consciousness as a pure, constant, independent entity, so likewise it has seated the ego aloft on a quite spiritual and sacred throne. Calling to mind the rhetorical outpours in praise of the glory and grandeur of the conscious ego, it requires some courage to think and speak of it as a physical effect of mental organisation subject to physical laws of limitation and reflection. Two things, however, are pretty certain—first, that it is not an ego in the sense of being something separate from and independent of the external nature in, through, and by which it lives; secondly, that the concrete ego, be its essence ever so spiritual, is generally neither glorious nor grand. The ideal conscience, doomed always to remain ideal, and the unrealisable ideal of a perfect humanity which faith foresees, supply the inspiration which incites and sustains the ardent philanthropist to toil in altruistic service, albeit his actual intercourse with men and women as they are is apt sorely to disillusion him.

Would it not be strange, seeing that the body is a unity, if the conscious issue of its unified elements and energies in the supreme cerebral representative centres was not a unity? As the natural expression of the bodily ego, the conscious ego varies necessarily as it varies in different persons and in the same person in different moods and at different periods of life, and notoriously may be lamed or mutilated by suitable bodily lamings and mutilations. Take out of the individual mind the qualities which enter into its composition with the development of the reproductive functions at puberty and the result is an

incomplete ego—the eunuch's ego, which, however subtly intellectual, is destitute morally. New matter acting on the brain by hidden bio-chemical means, or some other silently infusing agency, works a quiet revolution, or rather evolution, of the sensibility and mode of outlook on the world. Let the thyroid gland suffer progressive degeneration, a progressively degenerate ego answers to the physical deterioration. Could any two persons, again, be more unlike mentally than the two different egos of the same person afflicted with so-called *folie circulaire*, according as he is in the elated, energetic, self-confident, self-assertive, enterprising state of exaltation, or in the dull, dejected, apathetic, self-distrustful, almost inert state of depression? So far from the conscious ego being a constant entity, one and indivisible, not only does disease heighten, lessen, change, even dismember it, but all sorts of tricks are played with its unity by hypnotic and similar experiments. Think on the humiliating spectacle of dissociated mind which he or she presents whose mutilated and enslaved ego with machine-like obedience servilely thinks, feels and does as the operator directs. Such a creature, too, as the operator sometimes is!

If it be asked why in such case, if the fundamental bodily unity persists, it does not hold the ego better together, the answer is because the bodily unity is not then justly represented in the mental organisation; a disjunction of the normal associations of its federal tracts disintegrates the confederate unity. Separate cerebral tracts or centres or complexes being almost exclusively active, and the functions of confederate tracts suspended, the ensuing consciousness naturally and necessarily goes along with the active function, and the character of the ego as naturally and necessarily varies according to the part which is in predominant action. Thus it falls out that the same bodily ego is at one time a sound social being and at another time an incomplete or positively anti-social being. Could we dive into the turbid recesses of the acutely melancholic mind in which panics of fear and horribly vivid delusions, more intense and real than any sane thought and feeling ever is, convert every impression on every sense—on eye, on ear, on organ of taste, of smell, of touch—into omens or threats or means of torture, and provoke shuddering recoil from expressions of sympathy and frantic resistance to

the ministrations of necessary help as signs and agents of assault, it might be easier to realise how closely and surely consciousness is tied to the nightmare of a mad-brained activity, and to picture what a monstrosly frightful world it makes and projects for itself. Pity it is that every sane person cannot be taught to understand how much he, like every insane person, does to create his own external world, and thereupon learn by comparison to put its right value on it.

The vital work of the body following its natural course in continuance of Nature's great creative process, that is the fact which we have to do with in the complex mental organisation of the supreme cerebral centres. Therefore it is that when the relational function of mind is suspended in sleep while organic life continues, imagination is vitally active and silent pulses of a not quite quiescent thought or feeling of the day, or an outward impression apparently unperceived, or the least bodily derangement, stirs the scattered waves of the mental organisation to the usually disordered, yet always wonderfully creative and sometimes fairly coherent, activities of dreams. Think on the irresponsible, conscienceless, amazingly productive being which the person then is. What has become of the unity of his conscious ego? It would verily go hard with him were it not for the basic unity of the body which, persisting, holds him together as an organic unity, sometimes even as a tolerably coherent mental being, when his life of relation as a conscious being is suspended. The lesson of disintegrable ego is truly a large and wide-reaching one. Natural dislike of the pitiful wiles and guiles, the odious insincerities and hypocrisies, the mean vices and criminalities of persons who possess a weak, unstable conscious unity may easily provoke too hard a censure; for a feeble, fickle, and fluctuating conscience is the inevitable physical consequence of an unstable and easily disintegrated mental fabric whose explosive flash-point is low.

In the continual action and reaction between the individual and his environment whereby equilibrium is obtained and maintained it is necessary to look more deeply than on the superficial and seeming self—to peer into the organic depths of him. Innate in the forms and delicate intricacies of his constitution are embedded the many condensed essences of individuals of his line of descent; nay, more, the incorporate adaptations of the race through the ages of its evolution—all

the precedent acquisitions which have accumulated from human beginnings to endow him with his present capacities and make him feel, think, and act as he does in human fashion. Thus embodying in his organisation the long past adaptations of the species, as well as the later special adaptations of his own ancestors and the latest individual registrations of his particular experiences, it is obvious that the reflection between the man and his environment is not a simple and superficial affair, but a deep, subtle and complex excitation of the very intricacies of his being; its formulated expressions the outcome of all the finely interwoven motions, orderly and harmonious, of the elements constituting its organic unity. The stimulated self-consciousness of such a long-formed, much differentiated, complexly co-ordinated being, must needs be a very different thing from that of a creature low in the scale of animal development and embodying no such intricate complexities of special adaptations; the product not of individual adaptations only but also of those of the species and the family stock, all which go to constitute the silent contents of his composite self-consciousness.

To excite consciousness in the interactive adaptation between the organism and its environment it would seem necessary that the sensory impression be followed by its motor reaction, the ingoing motion *from* without reflected into the outgoing motion *to* the without—the circuit, in fact, completed. Note is easily taken of the sensible impressions which objects make, but it is not so easy adequately to realise that there would be no consciousness of any such object were the impression on sense not followed by its fit motor reaction. When the eye sees an object definitely there is the exact adjustment of ocular movements to grasp or apprehend it, and when the vision of it is vivid in memory to the mind's eye there is an understood, though not visible, motor grasp or apprehension of it. Even the thinker who reflects closely upon some problem or process of nature must, if he will get a clear and distinct notion, if not actually visualise his conception mentally, at all events make some ideal motor apprehension of it. So only can he grasp and think it clearly. No one would be conscious of an outer world, and therefore conscious of himself as a self, did he not react motorially to it.

The essential notion to be formed and kept clearly in mind plainly is that man is not something separate from the rest of

nature but a living part of it ; although individual not divided from it, but just a body in it acted on and reacting in the continuous flux of its mysterious process ; vitally rooted in it and growing out of it in proportion to the increase of sound relations with it. Individual he is, it is true, embodies a so-called principle of individuation, yet only as part of a whole from which he is derived, from which he is not severed, and into which he returns when his spent individuality, like that of a plant or animal, ends. When things are frankly viewed in this light mental organisation takes its natural place as crown and present consummation of organic evolution.

If the physical basis of mind be a rational structuralisation of experience, a true mental organisation, what happens when statical mind is discharged in function ? Assuredly, exceeding swift and subtle motions of some kind spread from every active part along registered tracks of association and stir into activity other associated parts of the mental confederacy ; many associations, more or less used, in the complex mental organisation which education and experience have richly edified ; few only, constantly used, in the mind of simple structure. What is the nature of the fine waves of motion, and what are the modes of their complex inter-actions, regular no doubt when irregular they seem, we cannot tell ; can only at best guess at lamely by help of such known likenesses as serve, using the inadequate language of known to describe unknown processes. The exquisite subtleties of such notions are, however, imaginable when we reflect that a free electron is now believed to travel easily between the atoms of a compact solid substance.

What happens physically, again, when the subtle motion of thought along the fine filaments of the brain—exactly measurable, no doubt, had we the sufficiently delicate instruments and appliances—becomes conscious ? That the conditions of such consciousness is some kind of physical reflection, a conscious thought being a reflected thought, seems probable enough. The very word *reflection* may point to an instructive intuition of some such physical process. Certainly consciousness does not, as usually assumed, precede and originate the particular mental motion, whether it be motion of feeling, thought or imagination ; it is really concomitant with or just sequent to it, sometimes notably sequent by an appreciable interval—is in

effect consequence if not fine physical reflection of it⁽³⁾. So long as consciousness is thought of as a reality apart from the particular mental act, as an independent something which receives and reacts, the pure and serene attribute of a metaphysical ego which transcends the bodily ego, so long will it be hard to gain a positive notion of the real conditions of its existence and the laws of its function.

That consciousness is an ultimate fact is a truism which hardly needs the frequent reiteration it receives. We can no more explain what it is than we can explain what electricity is, or what ether or what anything in its ultimate reality is; all we can do is to study the conditions of its origin and different manifestations, which notably differ in degree from the simplest sensation in simple organisms to the fullest reflective consciousness in the most complex organic structure in the world, namely, the microcosm of the human brain. By imperceptible gradations its illumination increases from feeble glimmer to brightest glow. Why, then, ignore its spiritual independence, if it has such independence, when it first appears? Scientific inquiry is bound to take notice of its dawn in the simplest sensation, indistinguishable actually from so-called irritability of the lower organisms, in the first sensations or barely conscious sensibilities of the human infant, and in the so-called organic sensations or sympathies which, although not consciously felt, have so large and important a share in bodily and mental life. The physical conditions of its origin, whatever they be, are they not fundamentally the same on its lowest level of simplicity as those which obtain at its highest summit of evolution in the human brain? At its best it cannot decently disown its natural kinship. When a decapitated frog performs the same purposive action of defence or embracement which it would perform if not so mutilated, what is to be said of its consciousness? Although the creature

(3) Such momentary delay of consciousness may, perhaps, explain the sometimes strange flash of feeling and apparent reminiscence of having been in exactly the same circumstances before, notwithstanding that they are quite new. Although new to consciousness they are not really new, because they have made their impressions before the conscious perception by which they are illumined, and then, as it were, remembered. Impressed in the dark they seem familiar when the light is thrown on them. In like manner, an interval may occur between a remark made which a person is not conscious of hearing at the time, attention being otherwise fixed, yet he hears and replies to a moment afterwards when consciousness, so to speak, is released. Consciousness, in fact, cannot be in two places at the same time.

is not cerebrally conscious, its body is clearly sensible to, if not conscious of, the stimulus to which it has before made and now makes intelligent response. The autonomy of the ganglionic centres governing the requisite combination and fitly proportionate actions of muscles implies an intimate intersensibility or sympathy which, if not conscious sensibility, is at all events its equivalent.

It is common observation that the consciousness which accompanies the formation of a mental act lapses when, the act being definitely organised, the performance is perfect. Conscious of the learning and first performances of an idea or act, we are unconscious of its performance when it has been perfectly learnt. Organic memory then disperses with the need of recollection. That is the case with all so-called acquired reflex acts, the organised machinery of which automatically performs so large a part of our daily thinking and doing. Plainly, consciousness is not an essential factor of the perfect function. A swift interplay of mental motions between federated parts—radiations at large, so to speak—proceeds until the proper motions are combined and fixed in the right neural complex. That which takes effect in the acquisition and perfection of an idea, in the clear and distinct apprehension of it, is exactly like that which goes on when anyone takes pains to join different muscles in fit degrees and nice adjustments of movement in order to learn and perform well a skilful bodily act ; these being at first vague, clumsy and inexact, and only by practice made precise, close and fit in compact union. To apprehend an idea is literally to grasp or apprehend it, the clear and distinct idea the precise grasp or apprehension.

Note in this connection how loosely some wits wander in distracted motions when a new idea is suddenly offered to them, before they can combine—if they ever can—and steadily apply the proper apprehension ; stagger, stumble, fumble in thinking, so to speak, instead of quietly and steadily thinking it. So far from making patient and firm application, they are apt, especially if they are women or feminine men, confusedly to resent, even angrily resist, the required adjustment. The new idea, being an invasion of their mental structure, is an offence to its self-conservative instinct and their self-love ; it is resented and repelled accordingly as an unwelcome, if not unrighteous, intruder. Now, as in the union of movements to perform a

purposive act with ease and perfection consciousness lapses when the performance is perfect, so if it intervene when it is not wanted it hinders rather than helps, discomposing or distracting the proper complex of motions, as is commonly said. The truth, however, is that no interloping consciousness does anything of the kind ; it is not consciousness which distracts or disintegrates, for it is the outcome and expression of the distraction or disintegration. The over-meditating person paralyzes action because his conscious reflections dissipate at large the motion which ought to stream along the proper channels in definite work. For the same reason the old man, although useful in counsel, is bad in execution, lacking organic energy and dissipating what he has in reflections.

The disappearance of consciousness when the performance of an idea or act is perfect justifies the inference that it arises from the reflections which take place in the learning of the thought or act before the right combination of them is settled and fixed in structure. Naturally, therefore, it happens that when an unexpected jar, obstacle or failure occurs in the quiet process of automatic performance consciousness is instantly aroused, because the even flow along the settled tracts is dispersed in random reflections. Anyhow, whatever be the right physical explanation, certain it is that the best mental work is done actually without conscious reflection. The creative work of the poetic, artistic, scientific imagination is a spontaneous birth, comes, like a dream creation, not by conscious artifice, albeit a proper antecedent tuition is indispensable to sound creation. Patient contact with facts, disciplined observation and rational instruction by them are just the material which the truly creative imagination requires and uses, but fantastic and puerile imaginations gladly shirk and lack. A well-instructed imagination may notably do good work sometimes in dreams. Indeed, a man might dream every night of his life, yet, were his dreams dependent upon a pre-designing consciousness, never dream so creatively and dramatically as he does sometimes in a single night when he is vividly conscious of that over the construction of which he has no control. It would be no great paradox to say that the creative work of genius was excellent dreaming, and dramatic dreaming distracted genius.

The anomalous states of consciousness displayed in conditions of hysteria, catalepsy, epilepsy, hypnotism and similar

dissociations of mental function illustrate the essential connection of consciousness with the particular mental state and the signal disintegrations which the conscious ego suffers in consequence. When a group of cerebro-mental centres is stirred into quasi-spasmodic and exclusive activity, the rest of the cerebro-mental area being in a state of almost or entirely suspended function, consciousness is necessarily limited to the active parts and the personality of the self signally truncated. And if the abnormal states recur frequently or are repeatedly provoked and fostered, the person may seem to be two selves according as the strange or the normal self is in functional action. After all, nobody is constantly the same self. Not only is he a different self at different periods of his life and in different circumstances, but also on different days according to his different bodily states: sanguine and optimistic, gloomy and pessimistic, frank and genial, reserved and suspicious, apathetic or energetic. Although his intellectual powers are the same, nowise deranged, yet his judgment of the objective world and his relations to it is quite changed, because of the change in his moods and the nervous states which they imply. All which goes to show in a round-about way how much more fundamental is feeling than intellect, how futile reason is against its force, how poor a thing art or religion of any sort must be without feeling, and how little mankind might care to go on living were life a matter of pure reason. Be that as it may, reflecting that in every human being there are latent germs of being and doing what other human beings have been and done, imagination may suppose hypnotic suggestion or other agency to stir into predominant action one or another of these lurking human potentialities and thus compel the person for the time being to act under its temporary domination.

The disturbances of consciousness which occur in connection with epileptic fits are instructive morbid experiments, for in them there is no question of artificial suggestion on the part of an operator or of fraud on the part of the person operated on; no biassed quest of two persons in sympathetic conspiracy, conscious or unconscious, and on the expectant outlook to find the same result. Certainly it would be strange if the exquisitely subtle reflective motions of consciousness in the delicate, intricate and finely organised nervous structure of the cerebral plexuses were not deranged during the explosive outburst of

an epileptic fit. Simultaneous with the occurrence of disordered movements there is an instant abolition of consciousness, brief in the case of an attack of so-called minor epilepsy, where the victim performs a sudden gyration or some other odd movements, not knowing what he does, and then goes about his business as if nothing had happened ; prolonged when he falls down and is shaken in a succession of violent convulsions, lying in a state of stupor for a while after they have spent themselves. Consciousness must needs vanish instantly when the regular fine physical motions which are the conditions of its existence are violently drawn into the explosive outward discharge ; its torrent of convulsive energy engulfing the reflections of their subtle motions, which recur only when it is spent, and recur but slowly after violent convulsions because the exhausted nerve-elements need time to recover their squandered energy.

In minor epilepsy, where a slight local explosion of the cerebral cortex does not pass outwards into convulsions, the derangement of the fine and orderly motions within it is sometimes accompanied by a corresponding limited and confused consciousness. Then it is that the person carries through a succession of customary acts without being fully aware of what he is doing, or that he is doing that which, when fully conscious, he had no intention of doing—for example, when attacked in the street on his way to business, goes instead to his home, only realising when he arrives that he has done what he ought not to have done. The full reflective motion of normal consciousness being abolished by the commotion of the cerebral seizure, the dominant notion ruling in the disintegrated mental self directs the routine of conduct requisite to carry it into effect. It is then motion of thought along the beaten thoroughfare, so to speak ; he has consciousness enough to do by rote the work he does but not reflective consciousness, not the power to make the fitting reflective motions.

The special *aura* or warning preceding the cerebral commotion of an ordinary epileptic fit is usually a strange sensation which seems to rise upwards from some part of the body, or perhaps a vivid hallucination of one of the special senses ; a local sensory disturbance denoting the starting-post of the general commotion. In other cases, however, the precursory disturbance of consciousness is more intellectual than sensory,

a hazy aberration of thought and feeling which the sufferer feels it impossible to describe, so strange and alien is it. How ever describe the unintelligible abnormal in terms of the intelligible normal? It is a sudden irruption of dazed thought and feeling or a seeming reminiscence of a scene or dream confounding strangely the sense of self or producing the impression of two selves. Together with its abrupt invasion, or rather its explosive discharge, consciousness of outer relations is obscured or partly suspended and soon followed by temporary unconsciousness. Apparently a local or partial explosion of the cerebral area takes place before the entire area is implicated in this disordered commotion.

Similar incursions of hallucinations, hazy thoughts and odd reminiscences, unexpected and unwilling, with perhaps a loss of sense of self or strange sense of double self, notably occur frequently in the semi-conscious state between waking and sleep; for then the scattered and flickering notions of a mental organisation subsiding into functional inaction seem to meet at random and occasion corresponding flashes of consciousness. These states of fluttering consciousness in the transition from waking to sleep show plainly how consciousness flickers, like an expiring candle, with the waning activities of the mental organisation, as they cease irregularly in different parts of it. A like condition of things in one who is at the point of death gives occasion to the awe-stricken attendants on the solemn scene to detect in the muttered utterances prophetic aspirations or anticipations, and to behold proof of the immortal ego taking final flight from the mortal ego then fast ceasing to be an ego.

It is not altogether satisfactory to say, as is sometimes said, that the epileptic is unconscious of the impressions which, in a measure, direct what he does when he does a succession of seemingly purposive acts, because he is not then conscious of objects which, having no direct relations to his present actions, make no conscious impressions and he remembers not at all, or hazily and vaguely only, when he comes to his full self; for he sees encountered objects as he goes along and adapts his movements to avoid them and to accomplish the purpose which he has in mind and for the time being is his mind. The cerebral complexes which govern his performance are so far sensible and reactive to their impressions as to excite in

succession the limited consciousness required to enable the disintegrated ego to do what it does; they effect the necessary interworking of motions to ensure the successive steps of the right bodily actions. How should the individual, when he is again a complete self, remember clearly what a fragmentary self did separately? The reproduced fragmentary self could alone do that. When one nervous mechanism, sensitive and reactive to a particular order of impressions, acts independently, the whole self cannot have the consciousness of its parts acting together. This morbid distraction of a part of the mind (and a small part only of the mind, after all, is engaged in its usual operations of thinking and doing) is but an extreme illustration of that which occurs naturally in daily life when a person lost in thought goes methodically through a customary performance without being apparently conscious at the time, certainly without remembering afterwards that he did it. Did he go to a usual destination through this street or that? He cannot say unless some forgotten circumstance which drew a momentary notice as he passed chanced to occur to his recollection. More than half of every life is lived automatically by rote; paradoxical as it sounds, when memory is perfect there is no recollection.

The lesson to be learnt is that sensitiveness to impressions with adaptive motor reactions, yet without the full light which we call consciousness, is a property of nervous substance, and that a mental organisation is thereby gradually fashioned⁽⁴⁾. A receptive cerebral area is so modified by previous impressions and the reactions to them as to respond instantly; repetitions of impressions having fixed in the mobile colloid matter

(4) As, indeed, of much coarser matter when there is answering rhythm to received rhythm. The latest inquiries show that masses of matter in contact are seldom, if ever, without influence upon one another. Molecular interaction of the surface-layers takes place with incomplete chemical reactions and electrical charges. "Concentration, electric conductivity, all physical properties become abnormal," so that "when the surface energy forms a large fraction of the total molecular energy, as in films or fluids in fine capillaries, ordinary chemical or physical knowledge fails us. And there is "good evidence to prove that the life-like characteristics of colloidal matter, its capacity of storing impressions, the elusiveness of its chemical and physical states, are due to the fact that an exceptionally large fraction of its energy is in the form of surface energy." For it is certain that living matter contains a very large proportion per unit of mass. A French physicist, M. Perrin, has recently shown that by the use of minute quantities of salts one can fix in the surface-layer certain qualities which, for instance, define the electric properties of the surface. Moreover, the effect, once produced, endures; no amount of washing will undo it. In the absence of chemical intervention it will endure, exerting a directive influence upon the molecular events in its neighbourhood. ("The Physical Basis of Life," *Proceedings of Royal Institution*, 1906, William Bate Hardy.)

of its living structure qualities which render it thus specially sensitive and reactive to them. Once the special nervous matter thus modified is duly organised in an order of feeling and thought, it functions automatically, making no more demand on, or use of, conscious reflections than a similarly organised motor complex, consciously acquired in the first instance, does in accustomed bodily actions. As the different sciences represent different series of analyses and syntheses of ever-increasing specialty and complexity, the nervous complexes organised to subserve the special syntheses of one science are necessarily different and differently conscious from those of another science; those of the mathematician, for example, insensible and non-reactive to those which in the physiologist's brain are the subjective organisations of the objective facts which are his special study. So it is that, as Dugald Stewart said, great mathematicians are often the most credulous of men outside their special domain of thought. In the ideal time to come, when the several sciences shall have perfected and completed their respective analyses and syntheses, it may perhaps come to pass that their specialisations, which now render them mutually unintelligible for the most part, shall be consistently harmonised as a full, true, and final philosophy in the duly sensitive and reactive plexuses of an adequately organised human brain; the exquisitely fine, special and complex structure of its microcosm then subserving an inconceivable maze of orderly motions compared to which the macrocosmic motions of the starry heavens are simple.

The definite conception of a mental organisation as something having extension, occupying space, fashioned differently in different persons, and subject to various places and degrees of disintegration, instead of the vague notion of an indivisible and intangible entity, possessing a constant unity of consciousness and incapable of disintegration, renders it easy to picture in mind the dissociations of federal tracts, their more or less independent and separate activities, and the consequent distractions of consciousness. Such dissociation may, of course, be not sudden and quasi-spasmodic only, as before said; it may be brought about, to some extent, gradually by the special and too exclusive exercise of a particular tract of thought and feeling, whereby it grows out of right relations into a settled habit of bad function and is shut off from the associations whose currents

of activity ought to qualify, control or inhibit it. Immovable prejudice is a mild result of such unwholesome function ; when it is extreme an organised insanity is produced characterised by systematised delusions concerning self and a class of things in relation to self, which, known once as *monomania* or *partial mania*, has now received the not a whit more appropriate name, etymologically, of *paranoia*. Why should a person of good sense in regard to all the ordinary relations of life, able to think and act rationally in them, believe that he is the victim of a settled persecution in all sorts of impossible ways, or entertain the notion that he is a royal person unjustly kept out of his royal rights ? The consistent and concurrent testimony of all those who come in contact with him and the plain exposition of the impossibilities of the imagined agencies utterly fail to shake the testimony of his own consciousness. His faith in that which is contrary to all reason is unshakeable ; he might heartily endorse Tertullian's maxim—*credo quia impossibile*," understanding thereby that the impossibilities of reason do not exhaust the possibilities of things, and distrusting the while the individual *credo* which confidently penetrates the mysteries. Were consciousness the pure light of a constant unity illumining the region of thought and feeling, it might be expected to expose, if not correct, the distraction of a disunited ego. It does not, because it has no such detached existence and independent authority, but, being incidental to the particular mental state, shares and declares its quality, attends submissively on the distracted action of confederate tracts.

Katatonia: in Relation to Dementia Præcox.

By W. JULIUS MICKLE, M.D., F.R.C.P., London.

IN youth, divided into its pubescent and adolescent periods, and, in relation to our subject, taking only the forms of mental disease that may come into question or relevance, besides idiocy's minor degrees, the chief to mention are simple dementia, hallucinatory, and confusional cases ; melancholic, maniacal, and "transitory" attacks ; periodical and circular psychoses ; katatonia, hebephrenia, the paranoias ; hereditary forms marked chiefly by impulse or moral perversion ;—cases on "mental

besetment" (obsessive) basis. Many other forms of insanity, of course, exist in youth.

I think that of the very large total number of cases of mental disease occurring in youth, there is a *relatively small group* to which the name "dementia præcox" may be fully applied, even in the strong sense of "dementia," in English—*small*, that is to say, compared with the very wide extension often given to that title.

And, of the group I mention, to some examples the name "paranoid dementia præcox" may seem slightly permissible, but not for choice or accuracy, *viz.*, the cases of intelligent young persons, or half-brilliant youths, whose previous mental precocious attainments as rapidly fail; whose quick mental deterioration, failing memory and attention, and accompanying urgent persecutory delusions (at the times when present) prevent them from giving good relevant account of themselves; whose gait, vacant smile, inane grin, facial grimaces, and other similar indications of defects and aberration of mind, and especially of "action," accompany the severe degree of mental dissolution. These premised; I now refer to "dementia præcox" in its wide signification accepted by many, and speak of the three-group division of "dementia præcox" into the *hebephrenic*, the *katatonic*, and the *paranoid* forms.

In the title "dementia præcox" of, or adopted by, Kraepelin, the "dementia" does not fully correspond with the meaning of the word usual in this country, *i.e.*, as degrees of loss of such mind as had developed, and connoting also a usual incurability; ideas mitigated and modified in the German expression used by Kraepelin. And he described what he considered as dementia præcox thus: "This peculiar and fundamental want of *any strong feeling of the impressions of life*, with unimpaired ability to understand and remember, is really the diagnostic symptom of the disease . . ." Again: "Besides the emotional barrenness there is also a high degree of *weakness of judgment* and flightiness, although the pure memory has suffered little, if at all. We have a *mental and emotional infirmity* to deal with . . . the incurable outcome of a very common history of disease to which we will provisionally give the name of *dementia præcox*." And, elsewhere, he made a tendency to mental deterioration of varying grades the peculiarity common to all the cases.

The descriptions by Kraepelin and his followers rightly describe a number of cases of types familiar; but the difficulty is to reach an agreement as to the relationship of the several types of cases, and of case-groups, and as to their appropriate places in the nosological chart.

I. *Hebephrenic Form of Dementia Præcox.*

This at puberty and later, and often, at least, with natively defective and morbid heredity, on which the auto-intoxications easily attending the enormous metabolic changes of puberty and adolescence act, as well as the severe nervous and mental commotions attendant on the establishment of all the new generative-function groups in *youth*—using this word as the short term for the ages of puberty and adolescence in both sexes. Co-operating factors in some cases are such as ordinary infective intoxications, cranial injury, masturbation, faulty educational pressure relatively to the native or modified endurance and educability of these mental weaklings.

On these bases, and under the conditions named: *Clinically*, in cases differently associated, are degrees and forms of native mental deficit or functional peculiarity; mental *deterioration*, from factors congenital in some, in others developing early, or early-acquired or partly so; more or less arrest and perversion of normal mental development; or mental derangement (hallucinatory, delusional, etc.).

Usual are, extreme childish egotism, obtrusive self-assertion, absurd silly inclinations or acts, fickle, and often incongruous mental depression of ordinary sad, or of hypochondriac type, and anguished states; often easily becoming varied by supervenient excitement, mental confusion, or exaltation. The emotional states, often not congruous with the real position at the time, may be grotesquely and utterly inappropriate whether lively or apathetic.

In general, the *actions* are apt to become fitful, irregular, misapplied, and mostly useless, occasionally destructive. The movements may resemble those of mechanical toys. Sudden cessation of work, or digression, or wanderings may occur.

The talk is, in many, characterised by long words, slang quotations, or prolix diction of pseudo-scientific or poetical type, or odd turns of expression in speech.

There may be fantastic whims, or silly bluster. Everything mental is fickle, and wears the garb of shallowness and silliness.

Striking symptoms are the working of the features in grimaces, especially when talking; silly, shallow facial expression; peculiar *mannerisms* of general bearing and attitude, mental and physical; *mannerisms* of "action" in detail; such as those of diction and of articulation; affected, verbose and would-be poetical rhyming, or oddity, or *neologisms*. Thus, in this imperfect mental development and enfeeblement, with puerile trend or set of mind, the intellectual and psycho-motor activities tend to display certain rudimentary perverted characters of movement and action, namely:

Irregular alternations of facile obedience and stubborn obstinacy, with nascent repetitive over-activity of movements and actions; and unduly automatic character of movements: elements and mild phases of negativism; or, on the contrary, of obedience of unduly automatic type; or of actual echo-praxis, or auto-echo-praxis, and of stereotypy.

Later on, such cases as these last still tend to, and may, *graduate into developed katatonia*.

The mental basis of hebephrenia may include original mental deficit; very early-coming developmental mental defect and deficit; supervenient mental derangement, and lastly, degrees of later acquired mental impairment.

II. *Katatonia as a Constituent Form of "Dementia Præcox."*

In my experience, the most striking general great clinical characteristic of katatonia consists of its vast clinical richness and immense variety—a clinical wealth partly patent, or even in some cases obtrusive, but partly, or in some, unobtrusive, and often not observed unless searched for and elicited, as regards some of the symptoms.

As examples of katatonia's extraordinary variety and richness of clinical phenomena, one may refer to manifold disorders and defects of sensibility, *e.g.*, psycho-anæsthesias, psycho-hyperæsthesias and paræsthesias, hyperalgesia, hypo-algesia; important in relation to the development of other symptoms.

Psycho-motor disorders and conditions of extraordinary number, variety and changefulness, including many relative to speech and writing.

Anomalous, exaggerated, or lessened reflexes in different phases of the disorder.

Some exquisitely displayed disorders of movement or volition, often more or less opposing, *inter se*, and extremely rich in varieties as regards speech and writing; and corresponding numerous and very different muscular states.

Motor-tension of all degrees; also incidental varieties of spasmodic and convulsive disorders of the most varied kind, in different patients, or in the same.

Anomalies of general and special "action," including actions often mischievous, violent, aggressive, dangerous, destructive outbursts, or fugues. Pathetic type of expression in actions corresponding to the shallow pathos when the latter is present.

To mention only one other symptom-group, there are the numerous morbid disturbances and conditions as regards the *self-consciousness and personality* of the katatoniac, including many examples of morbid change of personality, such as of rebellious off-shoots, with more or less separateness and independence, and claiming a degree of withdrawal, as some of these off-splits of consciousness achieve; or such as examples of morbid change of personality and morbid grouping of ideal sets, which in their further morbid development may culminate in double *alternating*; or double or multiple consciousness or personality of the *co-existent* type; to which latter I find it convenient to apply the distinctive name, *duple* consciousness.

To this mere outline of part of the symptomatic expression of katatonia, to its clinical richness and immense variety, there are to be added the delicacy, the delightful charm to the clinical observer of its wonderful phases, more interesting, and even alluring, than almost any form else in the whole range of mental disease—the whole domain of psychiatry.

Katatonia rivals hysteria and ought to share with it the reputation of being an extremely *protean* disease. Metaphorically speaking, katatonia is a sort of cousin of hysteria, and some cases manifest additional symptoms of hysteric type. Katatonia is certainly a most interesting and diversified mental disorder, revealing, in the total of the cases, not merely its own characteristic symptoms and grouping of symptoms, but in some cases also showing features common to it and other forms of mental and nervous disease.

In cases of katatonia we often find a somewhat periodical or

circular type of the successive phases, partaking more or less of that of the periodical or circular insanities—a katatonic quasi-periodicity or circularity.

It is often misunderstood and disguised in individual cases, and reported and discussed under the name of “puerperal insanity” by those who fail to perceive the really katatonic type of the clinical phenomena in the particular cases referred to as being brought about, or brought out, under puerperal influences.

In ordinary general and other hospitals *katatoniform* isolated symptoms or symptom-groups are not rare; the rarity is that of their diagnostic recognition.

Long clinical study of cases has led me to think that the symptom-groups in katatonia in developing come to graduate into one another; that development and graduation being brought about by the interaction and opposing tendencies of the physical bases of the morbidly disorderly-acting mental functions, that is to say, of the physical bases of the developing and changing symptoms, *viz.*, the opposing interactions and mutual influences of the *cerebro-neural* functional perversions manifested outwardly in the symptoms observed; also the attempts to reconstruct function on lower planes of mental development and evolution, these being the best now available and possible in the given individual patient.

If I am approximately correct in what I have stated about it, then surely katatonia is *not* essentially and necessarily in all cases a destruction or wiping out of mind, but, very largely, derangement of mind.

And this, although we may speak of all mental disease as presenting phases, aspects, or conditions of mental dissolution or involution; as, in a sense, the reverse of normal mental development in the individual, and of the trend or set of mental evolution in the race.

Many katatoniacs, indeed, recover, at least so far as to again take their places in the world, earn a living, resume a fairly useful and sober life, not without pleasure and happiness and the self-respect rightfully accruing to virtue and usefulness, even if of no high grade or stable tenure. The previous life, and often even the milder phases of the mental derangements of katatoniacs, may manifest various forms and vagaries of flighty feather-brained cleverness, although the mental products

may be relatively useless for the patient's life, or even detrimental in the further interplay of their bases in the production of symptoms.

If, and when, one agrees to a separate classification of the insanities of puberty and adolescence, which I prefer to call *the insanities of youth*, hebephrenia, and most cases of katatonia, would be included, the remainder of the katatonia cases coming on later in life.

What has been stated suffices to show the vast clinical richness of katatonia, *e.g.*, the psycho-motor and psycho-sensory, the emotional variety, the many changes and phases, divisions, transformations, and disintegrations of the personality in some cases; each of extreme variety, protean changefulness; and taking all cases together into consideration, combined in changes sometimes, or in some few examples, slightly kaleidoscopic; sometimes, or in some, far more leisurely.

Nearly twenty years ago, in *Brain*, the journal of the Neurological Society, vol. xii, 1889, p. 503, and vol. xiv, 1891, p. 99, I published articles on katatonia; the first being in relation to the general subject, and the semeiology of a well-marked example up to the date of publication; the second continuing the clinical record until the patient's death in the severe epidemic of influenza in London, 1890, and giving a record of the necropsy.

At the time of, and before, the former of these articles, I placed katatonia between periodical and circular insanities on the one hand, and hebephrenia, with paranoia (both "original" and typical forms) on the other hand.

The clinical phenomena nowadays grouped under "automatic obedience," or one of its synonyms, I described individually as they occurred. The medium and severe degrees of the symptom-group now usually termed "negativism" (which doesn't explain itself) I then named "mulish obstinacy."

Of that which is now dubbed "stereotypy" of action, I described the acts as done in a "stereotyped" way or manner; and to the basis of the characteristic repeated total of such acts I long ago applied the name "repetitive activity," which perhaps may apply better than "stereotypy," the word now so much used in that signification. The orations and declamations, when not markedly repetitive, I summed as "recitative loquacity."

Pathogenesis, etc.

Two questions meet us here :

(1) Is katatonia toxic, or again, auto-toxic in origin ?

(2) Has katatonia a *demonstrable* pathological anatomy ?

(1) *Is katatonia of toxic origin*, whether that intoxication is self-made, or of either imported, or of invading, type of microbial source? To the *general* question of toxic origin, as at least one factor, the reply, seemingly, is *yes*.

The whole history and features of the katatonic group seem to indicate long-continued intoxication, partly or mostly auto-toxic, but not necessarily limited to that category, and in some or many examples due to pathogenetic factors invading from without, or ingested.

The auto-intoxications may well be due to perversions and changes, both *qualitative* and *quantitative*, in the *general metabolism* and in the *internal secretions*, at the periods of the vast disturbances of nutrition and of function during the developmental changes of puberty and adolescence—the times of the establishment of new functions and the corresponding strain on the nutrition of the brain and its functional activities in developing youth.

This strain, great in all young persons, must be enormous in some cases, especially when defective or morbid neuro-mental heredity has inwoven strains of qualities of weakness, proneness to functional failure, to disorder and decay, degrees of defective organisation implying, indeed, producing, defects of native resistance, defects of stability of function and of organic integrity.

Thus, at various times and variously combined in immense variety, taking all cases and all phases of the multitude of cases, we get the enormously varied polymorphous symptom-groups, variably combined, or recombined, or dissociated, according to the individual cases and the times and stages at which examined.

Such neuro-mental heredity, and in cases acquirements, is, or are, clinically manifested in morbid symptoms which are the outward tokens of degrees—and variably combined in different cases, and at different phases of the same individual case—of the neuro-mental qualities of, or of some of, the following :

Instability,
 Vulnerability,
 Impulsiveness, or contrariwise,
 Morbid torpor,
 Defective mental synthesis,
 Over-suggestibility, or contrariwise, degrees of
 Oppositional obstinacy,
 Disharmony, on the broad general lines of action, nervous
 and mental,
 Para-rhythm : rhythmic failure on the narrower individual
 lines of action, nervous and mental.

Taking katatonia in the mass, we find manifestations of all the above types of departure from normal, the pathological factors being, hypothetically, excess, diminution, or perversions of internal secretions, or of metabolism generally, or ingested pathogenic microbic or other pathogenetic factors, or invading infective ones. Toxic factors, therefore, seem to be very strongly indicated.

Further evidence in favour of this view will appear, incidentally, under the next department of our subject, namely, that of the morbid-anatomy question.

(2) *Has katatonia a morbid anatomy?* Limits of space call for brevity here. Drs. Séglas and Chaslin summarise Kahlbaum's experience of conditions of general stasis of the cerebral vessels in the early stage with some serous effusion, which produces softening of the cerebral tissue, and formation of exudation on the meninges and ventricles, chiefly affecting the arachnoid, and especially found at the base of the brain. In chronic cases some shrinking of cerebral tissue, and the exudation partially organised.

"In the cases where death has occurred at an early stage the arachnoid was opaque over the pons, and the opacity extended over the cerebellum to the medulla oblongata, immediately behind the fourth ventricle. In the other cases the arachnoid was thickened in the same regions; further there was a remarkable tendency for serum to exudate in the neighbourhood of the base of the brain." . . . "Moreover, katatonia has a predilection for the arachnoid and for the base of the brain, the exudation extending itself to the Sylvian fissure and towards the second and third frontal convolutions."

Later on, Brosius decided for three forms or divisions of katatonia :

One meningitic, of prolonged course, and on necropsy revealing residues of meningitis.

One connected with cerebral anæmia, improving with betterment of the general health.

One with marked cerebral œdema.

In *Brain*, vol. xiv, 1891, p. 99, I published the necropsy of an extremely well-marked case of katatonia, a young man who died from a severe complicated attack of influenza at the onset of a bad influenza epidemic, the nervous, pulmonary, and abdominal symptoms of influenza manifesting a very general invasion and reaction. The clinical history of this case is in the journal (*Brain*, vol. xii, 1889, p. 503).

Summary, only, of necropsy record.—Calvaria relatively very wide posteriorly, parietal eminences unusually situate very far back, and cranium narrow anteriorly, the cross section forming roughly a triangle with rounded angles, and the occipital declivity being unusually steep.

Dura mater slightly thickened ; in *falx cerebri* is a small, limpet-shell-like growth of bony aspect. The *dura mater* lining of the front and middle regions of the base of the skull is somewhat thickened and slightly stained rusty. Arachnoid thickened over inter-peduncular space, and over the orbital surface, is unduly opaque, thickened, and tough. Some wasting of olfactory bulbs and tracts, and part of the bulbs remained adherent to the skull on removal of the brain therefrom. Over each frontal lobe tip is a cartilaginous platelet in the pia-mater, and another near tip of left frontal lobe. Slight inter-hemispherical adhesions between the membranes of the two frontal lobes ; separation of these membranous adhesions led to stripping off of a superficial layer of grey cortex at those positions.

There was some meningeal opacity on upper and lateral aspects of brain, and in these regions the pia-arachnoid was somewhat opaque, thickened, and more tough than normal, and separating from the cortex with too great ease, a little watery fluid then oozing away from these meninges.

Slight convolutional wasting over supero-lateral fronto-parietal regions.

Slight adhesion of meninges to cortex in both cerebral

hemispheres at, and near by, the anterior part of the *base* of the brain (cerebrum), on the anterior curve of gyrus fornicatus, on the marginal gyre adjoining, and on part of the gyrus rectus (orbital), and of the insula of Reil, at all of which areas the meninges (pia-arachnoid) carried away with them, when stripped off, a slight layer of the surface of the cerebral cortex (meningeal adhesions and cerebro-decortication) or, for short, "adhesion and decortication," but superficial only (chronic lepto-meningitis with superficial cerebral decortication) in patches when the meninges were removed.

Velum interpositum thickened and tough.

Microscopically, some slight or moderate changes in nerve-cells of a frontal gyre.

Some architectural anomalies, of a not uncommon type, in the form and relations of some brain gyres.

Some cases of the study of the pathological anatomy of dementia præcox (variety not mentioned) were published in 1906. It is stated that in all the cases (they were examined microscopically by the Nissl colour method) there were the well-known chronic cell-changes of Nissl, deformity of cell-contours with gradual, or degrees of, disappearance of chromophile substance and increase of "pigment dépôts." In places, complete cell destruction and some thinning of the several cell-layers; with, and following which, comes glia proliferation. The cells not uniformly affected alike; the deeper layers, large pyramids, and polymorphous cells are the most affected. Blood-vessels relatively little affected, although with some pigmentary collections in vascular walls, endothelium, adventitia and peri-vascular lymph-spaces.

No characteristic histological distinctive signs were claimed as distinguishing these cases from other organic psychoses. But it *was* claimed that there was something characteristic of dementia præcox in the *localisation*, for in all cases the frontal and central regions of the cerebrum were chiefly affected by these changes, and the occipital region comparatively free.

Memorandum.—N.B. : This last localisation is nothing characteristic or distinctive; a similar localisation tends to appear in the vast majority of demonstrable brain changes found *post mortem* in the insane. From this statement I, of course, exclude some traumatic cases where the locality of the injury counts for much in localising the *post-mortem* morbid findings.—W. J. M.

As to the *pathology of katatoniform symptoms, isolated in occurrence*, or with little accompaniment by other katatonic or katatoniform symptoms, I have occasionally observed in the later or middle stages of "general paralysis of the insane" (G.P.I.), verbigeration, negativism, and emotional pathos, all of katatoniform type; one or two, or all three of these symptoms in different cases, and supervening in phases not of very long duration.

Also, one occasionally observes verbigeration chiefly and strongly expressed, but on occasions accompanied by other katatoniform symptoms lightly expressed, in cases of lesions produced by embolism, or by thrombosis, of cerebral cortex in *focus* or *foci*.

Also, automatic obedience, waxy flexibility, in cases diagnosed by others as renal disease, but only incidentally seen or examined by me.

III.

We now come to the so-called "*paranoid*" variety of "*dementia præcox*." In my article published long ago, and already mentioned, I placed katatonia near by paranoia, with its congenital bases, and early supervening form—original paranoia, this last being at that time accepted as a form of mental defect and disorder affecting early life and continuing into later periods, with mental deterioration.

The inclusion of the "paranoid" form of "*dementia præcox*" by the Kraepelin school raises points of difficulty. It involves a re-consideration of the whole subject of "paranoia" and of "original paranoia," "hallucinatory insanity," "confusional insanity," etc. These are not our subject to-day.

Resuming our subject: To begin with, Kraepelin *very straightly restricts* the application of the name *paranoia* to a class small in number.

Coming at a leap to Kraepelin's "*paranoid form of dementia præcox*," it is to be remarked that:

(1) The illustrative cases given also presented some hebephrenic and katatonic symptoms, and as he admitted a hebephrenic and a katatonic form, the addition of the paranoid seems *superfluous*.

(2) Moreover, the word "paranoid" applied to the cases is liable to become misleading in its relations and suggestions.

(3) The delusions, in the cases of Kraepelin, and by him termed "paranoid," were *totally unsystemised*. And in one especially does he emphasise the "luxuriant production of such extraordinary and constantly changing delusions," "and new extraordinary forms are always succeeding one another."

With the greatest deference and homage to the great master in clinical psychiatry, one may venture to suggest that such delusions are not well named "paranoid," and that the mere subject or dress of a delusion is not its most important character or feature. On the contrary, the mode of the psychological formation of a delusion, its degree of systemisation, or non-systemisation, and especially its actual relevant influence on *action*—the output and grade of the work of life—and on the higher adjustive adaptations which normally should guide *conduct* into sane, relevant, fruitful, beneficial, and successful paths; these are the most important matters.

(4) Hallucinations were prominent and important features in these cases, named as examples of "paranoid dementia præcox," and in one it is said, "that here hallucinations of the most different kinds play a predominant part all the time." But, according to Kraepelin's conception of it, on the contrary, in paranoia itself delusions are almost exclusively connected with real experiences mistakenly worked out. And he avers that "hallucinations never come under observation, or only quite occasionally," in paranoia; thus vividly contrasting with their luxuriance in the so-called "paranoid form of dementia præcox."

Except in mere verbal dress of some delusions—a matter of no very great consequence—the likeness is neither great nor important between "paranoia" in Kraepelin's acceptance of the word, and his own "paranoid form of dementia præcox."

I think some of his followers make this latter a too-widely comprehensive term.

Moreover, the mental symptoms even of general paralysis of the insane in a relatively small fraction of the total number of cases take on very much the same verbal persecutory depressed delusions, hallucinations, and other expressions as Kraepelin's paranoid form of dementia præcox. Yet we do not for that, or any other reason, split off a "paranoidal" dementia para-

lytica from our group of "general paralysis of the insane," *vel* "dementia paralytica."

Finally, as to classifying Prof. Kraepelin's dementia præcox and its three groups entirely by his own cases given as examples, in his *Clinical Psychiatry*, English edition, 1904, we find that all the groups, and all the cases described in each group, showed very marked *katatonic* symptoms, the only partial exception to this being a case of hebephrenia, chiefly ; but obviously possessing also decided katatonic features, and in process of graduating into katatonia.

Besides katatonic symptoms there are, in at least the very great majority of the cases, some symptoms usually assigned to hebephrenic mental disease.

These two sets of symptoms are fundamentally intermixed, more or less, in all the three groups into which dementia præcox is divided, the hebephrenic tending to graduate into the katatonic, and the katatonic taking, in a very striking manner, by far the major importance by their rich variety and number of phases and combinations of almost kaleidoscopic changeability at some times, or in some few examples ; therefore more leisurely transformation in most others ; and thus forming the central, or main, constituent group of so-called "dementia præcox," and blending naturally with the group possessing marked hebephrenic features and a tendency to merge in katatonia.

Let it be added that the chapter in Kraepelin's *Clinical Psychiatry* on "The Final Stages of Dementia Præcox" is devoted to *three cases*, admirably described ; but instead of each case being an example of the final stage of *its own form*, *viz.*, *one case* hebephrenic, *one* katatonic, and *one* paranoid, *all three are essentially* examples of the later and final stages of *katatonia*—another tribute to its clinical wealth and great predominance on which I have insisted.

To clinch this part of the subject it is also to be mentioned that in the lectures of Prof. Kraepelin already quoted, the three cases, detailed as examples of his *paranoid* form of dementia præcox, all manifested strong characteristic symptoms of *katatonic*, and partly *hebephrenic type*, *plus* totally *un-systemised* delusions with many hallucinations, the delusions being of depressed, or of expansive type, or of these intermixed.

Therefore, one may claim them as examples exhibiting the

katatonic type to a very large extent. They are taken by the Kraepelin school as manifesting a blending of clinical type with that of paranoia; by the katatonic and hebephrenic elements from strains of the same general heredity as the cases of the other groups.

Taking the whole of dementia præcox as described, that is to say, as a group of sub-groups (hebephrenic, katatonic, paranoid), katatonia is by far the predominant constituent element.

If so, why should not *the name for the whole group* express that notable predominance, especially as hebephrenia often tends to graduate into katatonia, and may do so?

Why not *katatonic insanities*, or *insanities group*, or *katatonic insanity*, or *katatonic dementia* (or *deterioration*), for short? And this subdivided for more minute study, if desired, into several subgroups.

For, whether so-called dementia præcox is taken as constituted of two or of three groups, katatonia is the one which is predominant.

The Bacteriology of the Cerebro-Spinal Fluid in General Paralysis of the Insane. By W. FORD ROBERTSON, M.D., Pathologist to the Scottish Asylums, and R. DODS BROWN, M.D., M.R.C.P.Ed., D.P.H., Assistant Physician, Royal Edinburgh Asylum.

IN recent years very numerous observers have endeavoured to ascertain if, in cases of general paralysis, micro-organisms can be demonstrated in the cerebro-spinal fluid withdrawn by means of lumbar puncture during life. All, with one or two exceptions, have obtained negative results, both from direct examination of the centrifuge deposit and from cultures, and the very general conclusion has consequently been formed that no micro-organisms are present.

The positive results that have been obtained are extremely few in number. In 1897 Montesano and Montessori⁽¹⁾ made cultures from the cerebro-spinal fluid of eleven cases of general paralysis and obtained positive results in eight. Among the micro-organisms obtained were streptococci, staphylococci, sarcinæ, and a bacillus which they termed the *Bacillus viscosus*.

They were unable to observe any micro-organisms in films of the centrifuge deposit.

More than two years ago Dr. Douglas McRae and one of us stated that we had obtained pure cultures of a diphtheroid bacillus from the cerebro-spinal fluid in two cases of general paralysis during congestive attacks. In thirteen other cases of the same disease no such growth was obtained, although in several instances, including the two cases in which there were growths, diphtheroid bacilli were observed in stained films prepared from the centrifuge deposit. In 1907 Dr. George M. Robertson⁽²⁾ recorded that Dr. Winifred Muirhead had obtained a culture of a diphtheroid bacillus from the cerebro-spinal fluid during life in four cases of general paralysis. He stated that it was not identical with the *Bacillus paralyticans*, but he had in his possession for purposes of comparison only vigorously growing strains of these micro-organisms. A culture of one of the bacilli isolated at Labert was kindly supplied by Dr. Muirhead, and it was found on examination in the laboratory of the Scottish Asylums to have the cultural and morphological characters and bio-chemical reactions of the feeble-growing type of the *Bacillus paralyticans longus*. In a recent paper Dr. J. D. O'Brien⁽³⁾ has stated that from the cerebro-spinal fluid of sixty-two cases of paresis he has isolated the *Bacillus paralyticans* in 70 *per cent.*, whilst in all of thirty cases of other forms of insanity the cultural results were negative.

The new observations, the results of which we wish now to record, have been made upon twenty general paralytics and ten cases of other forms of insanity. In all of these the cerebro-spinal fluid has been obtained by lumbar puncture. Cultures have been made both from the centrifuge deposit and from the fluid, and films of the centrifuge deposit have been examined for the presence of micro-organisms.

In studying films of the centrifuge deposits we have employed staining methods that serve for the detection of diphtheroid organisms, such as deep staining with Loeffler's methylene blue and various modifications of Neisser's methylene blue and vesuvin brown method. The examination of films of the deposit obtained from the ten control cases has proved conclusively that it is in general futile to attempt to distinguish in such films any bacteria that have undergone a marked degree of lysogenic change, for there is almost constantly to be

observed a certain amount of granular *débris* that tends to stain with aniline dyes, presenting appearances often indistinguishable from those assumed by various disintegrating micro-organisms. It is perhaps not unnecessary to inform the critics in advance that we are well aware of this fact. We have regarded no bodies as micro-organisms excepting such as clearly present the structural characters of well-known bacteria.

In all of the ten control cases, none of which presented any lymphocytosis, the centrifuge deposit appears to be free from micro-organisms. In the twenty cases of general paralysis the results have been very different. In twelve of them diphtheroid bacilli can be observed, either lying free or in the interior of phagocytic cells. In the direct films of most of these the bacilli that can be clearly distinguished are extremely few in number, and prolonged search has been necessary in order to find them. In one case, however, they are abundant, as many as from five to ten being often visible in a single field under an oil-immersion lens. The patient from whom this material was obtained was at the commencement of a severe congestive attack. In another case in which diphtheroid bacilli can be demonstrated, some diplococci can also be observed. That these are actually diplococci seems to be borne out by the fact that a culture of an organism morphologically identical (a Gram-fast diplococcus) was obtained from the cerebro-spinal fluid.

As culture media we have used chiefly blood-films upon glucose agar and glucose broths. Tubes of cerebro-spinal fluid have also been incubated, either with or without the addition of human blood serum. We have not been constantly fortunate in avoiding what would appear to have been contaminations, and it is necessary to consider for a moment here what are the possible sources of contamination in making cultures from the cerebro-spinal fluid of an asylum patient. The skin is a possible source of extraneous micro-organisms, but in the majority of our cases we have made cultures from the spot about to be punctured and have never obtained any growth. It therefore seems unlikely that the skin has been a frequent source of contamination, though this cannot be altogether excluded. It seems to us much more probable that the unavoidable exposure of the centrifuge tubes for several minutes to the air of the asylum ward in which we have to make our

lumbar punctures is the explanation of the occasional growths that we are obliged to regard as contaminations. In twelve tubes out of over three hundred we have obtained pure growths which were in all probability of such origin. We have not regarded any micro-organism obtained in culture as having been derived from the cerebro-spinal fluid unless an organism morphologically identical is clearly demonstrable in the corresponding centrifuge deposit.

We have obtained a growth of a diphtheroid bacillus from four out of the twenty cases of general paralysis examined. In all of these four cases a similar bacillus has been observed in considerable numbers in the direct films. Three of the patients were suffering from congestive attacks from which they have now recovered, whilst the fourth was in a very advanced stage of the disease and has since died. Three of these micro-organisms give the bio-chemical reactions of the *Bacillus paralyticans longus*, and the fourth those of the *Bacillus paralyticans brevis*. The case in which the direct films showed very numerous diphtheroid bacilli was one of those which yielded a growth of the organism, but it did so only upon a second examination, when the diphtheroid bacilli in direct films were less numerous. The first cultures were made only upon ordinary glucose agar, and all remained sterile. On the second examination, in addition to a diphtheroid bacillus, growths of the *Micrococcus tetragenus* and of a staphylococcus were obtained, but these two organisms have not been recognised in the direct films, and therefore their development must be provisionally regarded as due to contamination. In the second case the same three organisms were obtained, and the direct films show in addition to the bacillus, a staphylococcus like that grown. In the third and fourth cases the diphtheroid was the only organism obtained. It is to be noted that all of these organisms developed as pure growths. In the instances in which they grew on a solid medium they appeared as a single, minute colony. Two of the diphtheroid bacilli were grown upon blood-films, one upon a simple glucose agar medium, and the fourth (the *brevis* organism) developed in a tube of centrifuged fluid to which a drop of human blood-serum had been added. In making these cultures upon solid media we always heat the upper end of the tube and dip the cotton-wool plug in melted hard paraffin before inserting it. It has been definitely proved that many

strains of the *Bacillus paralyticus longus* will die out in surface cultures in a few days if the air is not excluded in this way, and it is therefore not improbable that our few successes in obtaining growths of these bacilli from the cerebro-spinal fluid have been in part due to the adoption of this plan.

All of the three bacilli of the *longus* type are feeble growers. None of them have shown any marked virulence to mice or guinea-pigs. One of four mice injected with 1 c.c. of a broth culture of the first bacillus isolated died on the ninth day. Some months ago a bacillus identical in morphological characters and bio-chemical reactions, but differing in respect of its greater vigour of growth, was obtained from the genital tract of the same patient, and 1 c.c. of broth culture injected into each of two mice proved fatal to both within twenty-four hours. It has been our experience that the most virulent strains of these bacilli are those derived from the genital tract.

These and similar previous observations, including those of Dr. O'Brien, seem to us to justify the conclusion that diphtheroid bacilli are frequently present in the cerebro-spinal fluid in cases of general paralysis at all stages of the disease, but especially during congestive seizures. If this conclusion is admitted the question naturally arises: What is the source of these micro-organisms? Regarding this problem, a considerable amount of light has already been obtained.⁽⁴⁾ In the general paralytic there appears to be constantly a well-marked chronic morbid condition of the naso-pharyngeal tissues. Of this there is clinical, bacteriological, and histological evidence. The histological evidence is very striking. In several cases we have now observed invasion of the deep nasal lymphatics by diphtheroid bacilli showing metachromatic granules. The sections also show that there is a more or less distinct sclerosis of the sub-mucous tissues. Now, the deep lymphatics of the nose communicate with the intra-cranial lymphatic system. Normally the flow is from the subdural space to the surrounding venous sinuses and lymphatic channels of the dura. If, however, in consequence of a morbid change, such as the sclerosis that occurs in these cases, the lymphatic channels of the nose become obstructed, it is easy to understand that the extra-cranial lymph pressure at the base of the skull may be raised, and that there may thus be a local reversal of the flow and the passage of the lymph into the intra-cranial cavity. If it can be proved that

this actually occurs in connection with an infective focus, then the phenomena of general paralysis can be explained as a consequence of an intra-cranial deviation of the flow of a toxic nasal lymph. This hypothesis is one that is still in process of being tested, but it certainly harmonises in a very remarkable way with facts already ascertained. Congestive attacks are commonly accompanied by engorgement of the nasal mucosa and the development of great numbers of diphtheroid bacilli and other bacteria in the nasal secretion. If such a surface multiplication of micro-organisms is associated with a corresponding increase in the invasion of the nasal tissues—and there are sufficient grounds for believing that it is so—then the toxic cerebral phenomena, the extreme degree of lymphocytosis, and the marked leucocytosis of the cerebro-spinal fluid, as well as the presence of dissolving diphtheroid bacilli in this fluid, can be satisfactorily explained. As we have already suggested elsewhere, the part played by syphilis may very well be merely that of damaging the nasal mucosa in such a way that it is readily attacked by certain forms of pathogenic micro-organisms. There is at least strong evidence that such a local bacterial attack occurs in general paralysis, and that certain species of diphtheroid bacilli play an important part in the morbid process. If diphtheroid bacilli are thus capable of invading, there is no reason why certain other micro-organisms which have established themselves secondarily in the infective foci, should not occasionally also gain access to the lymphatics, although we have not yet obtained any clear histological demonstration of deep invasion by them. If the posterior lymphatics of the nose are obstructed, any micro-organisms reaching these lymphatics may quite well be carried to the intra-cranial lymphatic system. It seems to us possible that some, at least, of the bacteria that we have been content to regard as due to contaminations from the air of the asylum wards, were really derived from the cerebro-spinal fluid, to which they had gained access from the nose. This might quite well apply to the *Micrococcus tetragenus* that has twice appeared in our cultures, and also to the staphylococci obtained in four other cases. This hypothesis of the intra-cranial deviation of a toxic lymph-flow would also serve to explain why it is so difficult to obtain growths of micro-organisms from the cerebro-spinal fluid, even in cases in which their presence can be demonstrated. Micro-organisms

of low virulence entering the lymphatics of the nose and tending to be carried on to the intra-cranial lymphatic system would be rapidly destroyed by the endothelial cells, with the occasional aid of polymorphonuclear leucocytes. Indeed, a high degree of local immunity would tend to be established, so that, beyond the local infective focus, in which there must be a complete breakdown of the defensive forces, there would be a very rapid dissolution of any invading bacteria. A more or less constant inflow of toxic lymph would determine the ordinary lymphocytosis of the cerebro-spinal fluid, and an exacerbation of the nasal infection with consequent increase in the toxicity of the lymph would account for the phenomena of an ordinary congestive attack.

(¹) *Riv. di. Psicol., Psichiat., Neuropatologia, etc.*, 1897, vol. 1, f. 15.—(²) *Journ. Ment. Sci.*, 1907, p. 609; *Brit. Med. Journ.*, September 28th, 1907.—(³) *Am. Journ. of Insanity*, July, 1908.—(⁴) *The Lancet*, November 14th, 1908, p. 1438.

DESCRIPTION OF THE FIGURES.

FIG. 1.—Centrifuge deposit from cerebro-spinal fluid of general paralytic in a congestive attack. Film stained by Neisser's method. Shows diphtheroid bacilli. $\times 800$.

FIG. 2.—Centrifuge deposit from cerebro-spinal fluid of another general paralytic, also in a congestive attack. Loeffler's methylene blue and vesuvin brown. Shows a group of diphtheroid bacilli. $\times 800$.

FIG. 3.—Film from pure culture of *Bacillus paralyticans longus*, obtained from cerebro-spinal fluid of a general paralytic. Neisser's method. $\times 800$.

FIG. 4.—Section of inferior turbinal body of a general paralytic. Loeffler's methylene blue. Shows diphtheroid bacilli in deep nasal lymphatics. $\times 800$.

DISCUSSION.

At a Meeting of the Scottish Division, held in Edinburgh, on November 20th, 1908.

Dr. LEWIS C. BRUCE said that the interesting paper by Drs. Ford Robertson and Dods Brown which had just been read was one which did not lend itself to discussion. The paper contained a statement of facts based upon research, and they had to accept these statements as facts until, by research work done on similar lines, they were in a position to confirm or refute them. When they considered how little work had been done similar to that recorded by Dr. Ford Robertson and his fellow workers, it was most desirable that destructive criticism should be avoided. Commenting, however, on the microscopical demonstration of the *Bacillus paralyticans* which had been given to them, he would point out that several of the preparations were not convincing. Those which represented dissolving or disintegrating bacilli were unsatisfactory. All workers with the microscope knew that the greatest caution had to be employed in interpreting what one saw; so many things looked like bacteria of various sorts. That criticism, however, did not apply to the preparation made from the cerebro-spinal fluid obtained from a general paralytic during a congestive seizure, which shows typical diphtheroid bacilli. If they could exclude accidental contamination in that case, the presence of these bacilli in the spinal fluid certainly supported Dr. Ford Robertson's contention that a diphtheroid bacillus plays some part in the production of general paralysis. Most of them accepted the statement that general paralysis was a toxæmia; that the toxæmia was due to the *Bacillus paralyticans* was not so generally believed.

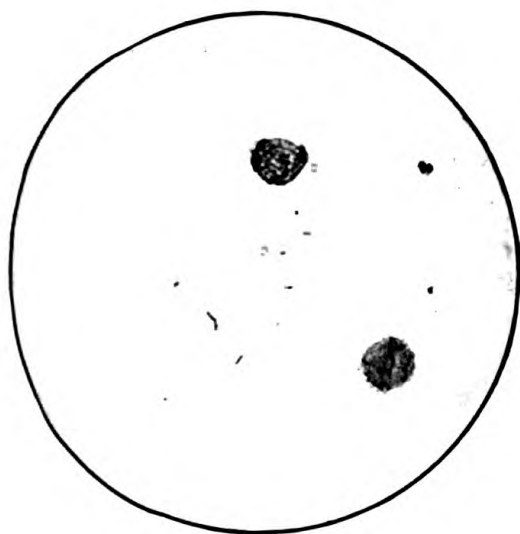


FIG. 1.

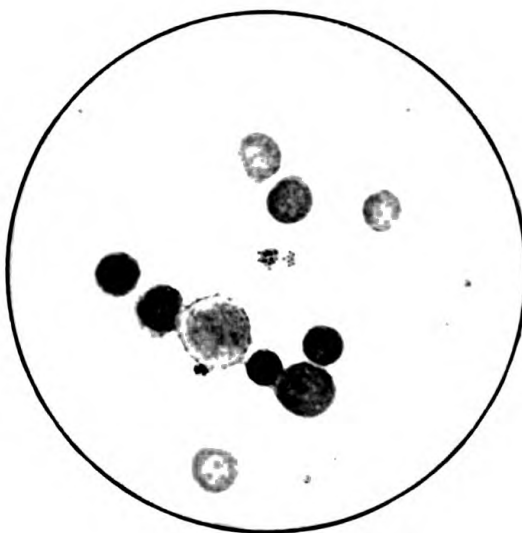


FIG. 2.

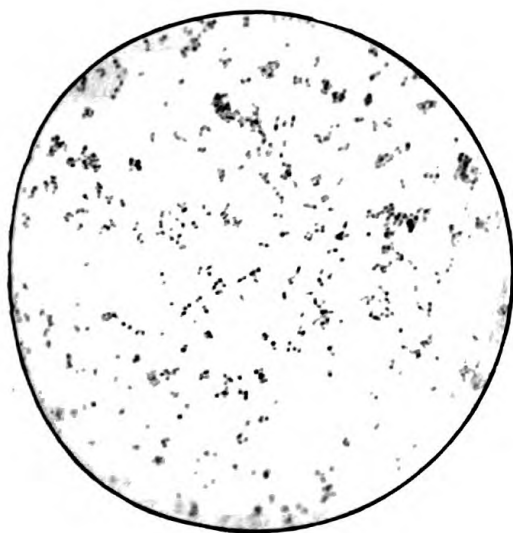


FIG. 3.

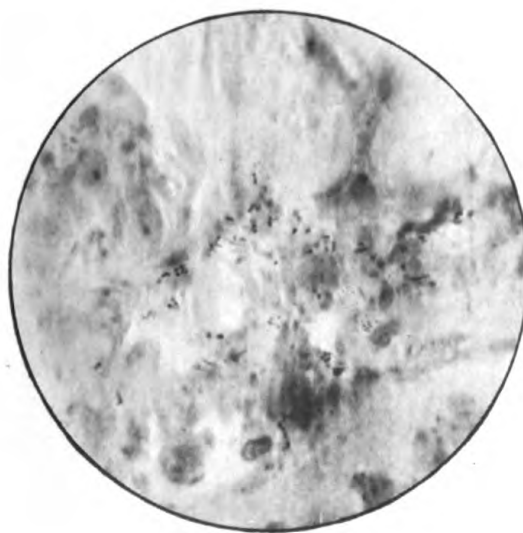


FIG. 4.

To illustrate Dr. FORD ROBERTSON's and Dr. DODS BROWN's paper.

Personally he thought Dr. Ford Robertson had brought forward much valuable evidence in support of his view, and while he did not go so far as to accept the case as proved, he believed that further advances in their knowledge of general paralysis would be obtained by work conducted on the same lines as those adopted by Dr. Robertson.

Dr. MARR said he was much interested in the paper which Drs. Ford Robertson and Dods Brown had given to the Division. He had difficulty, however, in joining in the discussion, as he had no basis of agreement with Dr. Ford Robertson. He did not believe in the presence of an organism in the cerebro-spinal fluid in ordinary cases of general paralysis of the insane. This decision was the outcome of an investigation on the cerebro-spinal fluid, which now had extended over three years, during which time the cerebro-spinal fluid from fifty-three cases of general paralysis had been investigated. While it was true that the investigation was not a purely bacteriological one, he had invariably made a routine bacteriological examination of the cerebro-spinal fluid directly from the needle *in situ*, and during lumbar puncture, and from the centrifuge deposit he had never come across an organism such as Dr. Ford Robertson discovered in uncomplicated cases of general paralysis. At the same time he would draw attention to the universality of the diphtheroid bacillus, which is found so frequently in the skin and throats of normal persons. From the paper he learned that Dr. Ford Robertson's theory of the causation of general paralysis was that it was a lymphogenous affection brought about by infection through the naso-pharyngeal lymphatics, which allowed of the entrance of the organism into the cerebral nervous tissues. Dr. Marr did not think that Dr. Ford Robertson's theory could be accepted, and was of opinion that the disease was a para-syphilitic affection; that it was the degeneration induced by external and internal stress upon neurons whose vitality had been affected by antecedent syphilis.

Dr. GEORGE M. ROBERTSON stated that he did not quite follow the explanation given in the paper as to how the organisms found their way to the brain. He thought it somewhat far-fetched and purely hypothetical to suppose that the lymph stream was dammed back by the sclerosed tissue and that a reversal of the current carried the fluid and organism to the brain. He thought it was much more likely that the course followed was the same as had been suggested for it in the causation of locomotor ataxia, *vis.*, that the organisms were carried along by the lymph-current in the nerves, and where these entered the brain that the organisms escaped into the sub-pial lymph-spaces. Dr. Clouston had asked the question why it was that the vertex in the brain appeared to suffer more than the base of the brain. If toxins existed in the cerebro-spinal fluid the explanation probably was due to the fact that the current of the cerebro-spinal fluid was from the base of the brain upwards to the Pacchionian glands, and that almost the whole of the toxin-containing fluid had to pass over the convexity of the brain, producing its irritative effects in its course. Dr. Robertson did not agree with Dr. Marr as to the rôle of syphilis in the causation of general paralysis. He thought it a very important, if not an essential factor, but he believed there was something in addition to the syphilis. Why was it that general paralysis occurred so seldom, especially in the past, among the syphilitic populations of the East? It had been said that this was due to the absence of alcoholic excess in the East. He would then ask why there was so little general paralysis among the Negroes of the West Indies, where there was not only a great amount of specific disease, but also alcoholic excess. He was inclined to think that the organismal hypothesis was by far the most probable explanation of the causation of general paralysis. He, however, did not think that it could be asserted or assumed that diphtheroids were the cause of the disease in the present stage of our researches. His assistants at Larbert had obtained cultures of diphtheroids from the cerebro-spinal fluid, as well as the blood of general paralytics and from the previous source on three or four occasions. He did not conclude from this that these organisms were the cause of the general paralysis for several reasons. Diphtheroids were exceedingly numerous. He believed that seventy more or less different varieties had been met with. They were found in numerous pathological conditions, and not only so, but very frequently in states of health. It was therefore not surprising that in general paralysis where the resistance to the growth of organisms was so feeble, that all varieties of organisms, including diphtheroids, should be present in great numbers. He had not only

found diphtheroids in the blood of cases of general paralysis, but had made cultures of them from the blood of patients suffering from other forms of insanity, including two cases of choreic insanity where there was not the slightest suspicion of the existence of general paralysis. While, therefore, he was in favour of an organismal theory in association with syphilis, or perhaps some other debilitating cause, as the probable explanation of the ætiology of general paralysis, and that possibly the organisms were of a diphtheroid character (the group may possibly produce neuro-toxins), still he thought that the problem was very far from being solved up till now. The paper to which they had all listened with pleasure was another step in the right direction, and it certainly supported the hypothesis.

Dr. WINIFRED MUIRHEAD said that on three occasions only did she succeed in cultivating a diphtheroid organism from the cerebro-spinal fluid of general paralytics during life. Puncture was performed early after the commencement of the seizure. She found no organisms in the films. In these cases she isolated the same organism in the circulating blood during a seizure and also in two of them *post-mortem* from the cerebro-spinal fluid.

Dr. CLOUSTON, who joined in the discussion, said that during his life many theories had been advanced to account for general paralysis of the insane, but of all those hypotheses that brought forward by Drs. Ford Robertson and Dods Brown seemed to him the most rational. In the name of the Scottish Division he complimented Dr. Ford Robertson on the importance of the work he had done.

Dr. DOUGLAS McRAE said: It has given me much pleasure to listen to this paper on a research in which I was once so happily associated with Dr. Ford Robertson. It is surprising how often we have had to repeat that mere presence of diphtheroid bacilli, in their manifold variety and ubiquitous character, is no kind of reason that they may not give rise to general paralysis in individuals whose "first line of defence" has been damaged by syphilis or other cause. We have previously shown that the particular bacilli with which we are dealing invade the tissues along the lymphatics and are also demonstrable in the blood during congestive attacks, and again are discernible in the nerve-cells of brain and cord, in the adventitial spaces and around the cerebral vessels, and in the white blood-corpuscles or free in the cerebro-spinal fluid in cases of tabes and general paralysis. We have also shown that the organisms isolated had been identified in specific broth reactions and had proved toxic to mice and rats, producing in the latter, after prolonged feeding, symptoms and pathological changes comparable to those in the human subject. In addition we have prepared an anti-serum from infected sheep, which was shown to have a specific reaction in cases of tabes and general paralysis, and which, alone or in conjunction with specific vaccines, we were able to demonstrate had a markedly beneficial effect on many cases. Dr. Marr's adherence to syphilitic ætiology gains no support from the conjugal case he cites. Conjugal and familial cases of general paralysis and tabes are quite well known, and if anything, they tend to strengthen our thesis that a specific group of micro-organisms is the cause of these diseases, rather than weaken it. It would appear that both the persons he mentions were in some way predisposed to general paralysis, or else that the particular brand of syphilis they had contracted caused the specific cerebral degenerations similar in both. One can quite well understand syphilis to cause endarteritis or gummata in one case and general paralysis in the other. But that both developed the latter disease would indicate the existence of another ætiological factor common to these persons. Such a common factor, Dr. Marr insists, existed in alcoholic intemperance, and one would be left to assume that in this instance alcohol determined the character of the clinical and pathological entity, or, in other words, was really the cause of the general paralysis. If this be not conceded, then one must believe that in some way or other the combination or the sequence of these evils (alcohol and syphilis) determined the production of general paralysis, or else they had fallen upon an *identical* soil, whose identity owed its origin to the operation of *natural selection*! One is almost forced to believe therefore that a specific organism or group of organisms, infecting one case after the other, would much more readily account for the occurrence of conjugal general paralysis. Statistics to show the occurrence of infection in asylums have not been compiled, since it has never been made the subject of inquiry. I believe infection does occur, and once knew of an imbecile in Wakefield who became a general paralytic after many years' residence in the asylum. I have also in my own

experience known cases of two asylum attendants and two nurses who developed the disease, while I have reason to believe others may suffer from temporary and partial infection, which they are able to throw off because of their healthy state. It is not inconceivable that the staff of asylums may develop an immunity to general paralysis like the surgeon to sepsis. With regard to the amount of pressure in the spinal canal in cases subjected to lumbar puncture, I may say that La Pegna observed high pressure in cases of idiocy, senile and other varieties of insanity, and in epileptic and general paralytic patients, quite apart from convulsive and congestive attacks, while some cases in convulsive or congestive seizures showed a distinctly low pressure. My own experience has been similar, and I have been struck by this inconstancy, which is not in keeping with the general teaching. With regard to the paper just read, I think Dr. Ford Robertson and Dr. Dods Brown are to be congratulated on the further progress they have made in this research. The fact that many persons still exist who do not believe in the "diphtheroid" hypothesis is no proof that it is fallacious, and I earnestly and confidently hope that before long sufficient evidence to satisfy their critical needs may be afforded these sceptics.

Dr. FORD ROBERTSON said it was a mere assumption, and almost certainly an entirely erroneous one, that general paralytics did not occasionally infect other persons. Any general paralytic who harboured diphtheroid bacilli of the virulence of many of those that he had isolated from such patients must be a source of considerable danger to others who happened to be susceptible to the pathogenic action of these micro-organisms. It was one of the many deplorable consequences of the hostility with which these views regarding the ætiology of general paralysis had been received, that to this day no precautions were taken in asylums to prevent the propagation of this contagious disease. Congestive seizures could not be explained as the result of the accumulation of cerebro-spinal fluid and increase of pressure. There was no evidence that in cases of general paralysis the pressure of this fluid was not controlled by the intra-cranial venous pressure, as in normal conditions. The excessive amount of fluid present after death was simply compensatory for brain atrophy and did not indicate increased pressure. It seemed inevitable that in a discussion of this kind the old and often-answered objection should have been raised, that diphtheroid bacilli were common in other diseases and even in health. These critics should first have offered this objection against the view that acute diphtheria was caused by a particular bacillus of this wide group, for it would have been equally valid. Some of their critics were also to be criticised for their apparent inability to understand so simple a doctrine as that of the infective focus. They could not see any difference between the presence of a pathogenic micro-organism upon the surface of a mucosa and its local invasion of the tissues. There was really all the difference between health and disease. He had dealt briefly with the subject of the treatment of general paralysis in a paper published in the *Lancet*, to which reference had been made. They now used combined active and passive immunisation, and endeavoured also to combat the local infection in the naso-pharyngeal and oral cavities by direct measures.

Some Aspects of "Maniacal-Depressive Insanity."⁽¹⁾ By
Dr. M. J. NOLAN, Resident Medical Superintendent,
Down District Asylum, Downpatrick.

IN view of the general interest at home and abroad taken in "maniacal-depressive insanity," and because of the special attention this division of the Medico-Psychological Association gives the subject to-day, the writer ventures to submit some considerations (based on his personal experience) on the value of the term.

Like many other things which we do not seem to be able to produce at home the term was made in Germany, and first given to us by Kraepelin. By him it was assigned to cover "the greater number of cases usually called recoverable mania, simple mania, simple melancholia, periodical mania, periodical melancholia, and circular insanity." He defined it as a mental disorder which recurs in definite forms throughout the life of the individual, and in which a defective hereditary endowment seems to be the most probable ætiological factor. He subdivides his great class of cases into three sub-groups, the "maniacal," the "depressed," and the "mixed," and he contends that such a conception of the disease, with *characteristic fundamental symptoms*, makes its recognition possible at the outset without having to wait for the occurrence of more than one attack. It is therefore essential to the clear conception of the class of cases to which Kraepelin applied this term "maniacal-depressive insanity," that the observer must be competent to recognise "the characteristic fundamental symptoms," so that, estimating them when grouped together, he may be in a position not only to designate them correctly, but what is far more important, to form his diagnosis and his prognosis, which is often of prime importance in medico-legal relations. Kraepelin lays down that "the characteristic fundamental symptoms" of the maniacal type are—

- (1) Great psycho-motor restlessness.
- (2) Pronounced flight of ideas.
- (3) Disorientation.
- (4) Great impulsiveness.
- (5) Transitory expansive delusions.
- (6) Occasional hallucinations.

This "maniacal state" may vary from hypomania (mania mitis or mitissima, and folie raisonnée) to delirious mania.

The characteristic syndrome of the depressed stage is comprised of—

- (1) Simple retardation.
- (2) Retardation with hallucinations and delusions.
- (3) Stuporous conditions.
- (4) Self-accusations.
- (5) Hypochondriacal delusions.
- (6) Hallucinations (auditory, visual, and olfactory).
- (7) Insight with condition.
- (8) Conduct, psycho-motor retardation.

Combined with the above symptoms, numbness of the head, palpitation of the heart, loss of appetite, constipation, insomnia, and dreams are also found.

A stuporous condition is the essential characteristic feature of the depressive state, and is further marked by incoherent and dream-like delusions and hallucinations, and a "pronounced clouding of consciousness." It is usually only an episode in the state (and sometimes occurs in the maniacal state). It is associated with profound disturbance of nutrition, loss of weight, great insomnia, foetid breath, extreme constipation or diarrhoea. The climax is reached in a few weeks, and the average duration of an attack is four months.

The foregoing recapitulation of Kraepelin's symptomatology brings at once into view so many conditions more or less common to the acute insanities that the question arises, How far is their grouping of practical value in dealing with mental disease? It must be confessed that so far as the first two groups—the maniacal, and the depressed—are concerned, it is doubtful if anything is to be gained by separating the cases comprised therein from classical cases of mania and melancholia when manifest in single or recurrent attacks. Set out in the clear paragraphs of a text-book, the grouped symptoms of the "maniacal" and "depressed" groups are well defined, and diagnosis should be easy if the clinical aspect was always as pronounced. In point of fact, however, the individuality of the patient influences the *degree* of the symptoms to such an extent that the relative values of the symptoms are questionable—some are accentuated with startling prominence, others subdued almost to complete repression. This individual factor is so distinctive in its positive and negative variations that it practically effaces the value of the academic grouping. Thus while the observer is impressed with the form of mental derangement of A. B, he is unable to relegate A. B to the category of the "maniacal," or "depressed" group of "maniacal-depressive" insanity. Such, at least, is the writer's personal experience.

No such difficulty, however, exists with regard to the "mixed" group, to which the term "maniacal-depressive insanity" might perhaps be restricted for all practical purposes. Here we have the association of maniacal and depressive phases, in one attack, and so intimately united that there is the closest juxtaposition. It is with this mixed form we may chiefly

concern ourselves, as it is most definite in character, most frequent in occurrence, and most interesting in its psychological aspect. The striking mental contrasts presented in one individual within a brief period of time compose a clinical picture that must be attractive to the least observant: The oscillations are frequent, irregular in periodicity, and ring the changes on the emotions, passions, and sensations, leaving the intellect intact after all the erratic phases—phases which in character and degree may be comparable to aerial phenomena. We see in turn the dead calm of apathy, the gale of mania, the cyclonic violence of paroxysmal furor. There is a fascination in the display of such exaggerated mental forces, feeling as we do that so surely as the calm follows the storm, as surely will rational conduct succeed the mad riot and conflict—that after each attack there is a complete *restitutio ad integrum*. As Bianchi states—"The diverse forms which have been described are but the different manifestations of one and the same fundamental pathological process, *equivalents*, like the many forms assumed by epileptic paroxysms." So rapid at times are these diverse forms that it has been observed "the patient goes to bed a melancholiac and rises a maniac."

Bianchi says "the gravest form of this sub-group is that which gives very short truces, inasmuch as the psychic life is caught in the gearing of a series of maniacal and by-maniacal attacks from which the sufferer very rarely succeeds in freeing himself."

Kraft-Ebing, while insisting on the primary origin of periodic maniacal insanity, refuses to admit a pre-melancholic stage, but notes a prodromal stage akin to an *aura*. And though Kraepelin states that the melancholia of involution is quite distinct from the depressive stage of maniacal-depressive insanity, yet he gives no sure criterion to distinguish the two.

Having now grasped to some extent the views of Kraepelin and other authorities on the subject, let us consider their practical application.

While it must be admitted that some such term as "maniacal-depressive" insanity was, indeed, much needed to clinically classify such attacks as those to which Bianchi refers so graphically, it is very questionable whether Kraepelin's vast group of so many conditions under one head has tended to clear the air, and to the writer at least it would seem that the

necessary purpose would have been better accomplished if the term had been restricted to that class of the insane of which it has been said by Sir John B. Tuke, "That it is impossible to say whether they are melancholic maniacs or maniacal melancholiacs."

Are the symptoms individually or collectively "characteristic" in the so-called "maniacal" and "depressive" states? That they are so is certainly open to doubt, and personally the writer cannot agree in the affirmative. With regard to the "mixed state," no such doubt is possible. For though one or more of these "characteristic symptoms" may be common in cases outside Kraepelin's very wide class of "maniacal-depressive insanity," yet the grouping of them is so very definite in the circumscribed mixed sub-group that they undoubtedly seem to deserve special recognition as a valuable syndrome when they occur *in globo* during a single attack. We are well aware what a crux such a combination presents to the general practitioner, who in his bewilderment seeks our assistance, and we are painfully alive to the difficulty we ourselves experience in recording such cases in official registers and returns under the restricted heading of "mania" or "melancholia."

Hence we accept with pleasure a term which correctly designates a hybrid of the two.

If some symptoms of the special groups are to be regarded as of more importance than others, it would seem to the writer that from his knowledge of such mixed cases much weight should be given to the *transitory* expansive delusions of the maniacal state, and to the patient's *insight into his condition* in the depressed state, taken together with tics and "numbness in the head" during convalescence. There is something inherently characteristic in the ephemeral inconsequence of the transitory expansive delusions: the patient seems to speak with "his tongue in his cheek"; he "talks big," too, and with an air of bluff when he indulges in spiritual and personal fantasies. In no way is his exaltation of the same assured and solid type met with in states of exalted mania or general paralysis.

Similarly the patient's "insight into his condition" carries a specially characteristic value—in no other class of the insane is the same keen appreciation of disordered intellectuality so startling, vivid and accurate, and so often given in the terse statement, "I am mad! Don't mind me, I am only a lunatic!"—so often made in voluntary explanation of erratic conduct.

The convalescence is very frequently marked by neuralgias as well as "numbness of the head." This latter condition varies in degree and in area, from a mere circumscribed numbness to an all-over feeling of torpor and weight; or the latter feeling may be described by the patient as affecting only one region, the vertex or the occiput, the former more frequently in climacteric, and the latter commoner in adolescent cases.

In some cases, too, the writer has heard complaints of internal growths or other material agents as being the sources of these abnormal feelings. Schroeder has observed long continued localised pains after recovery.

Speech disturbance is common and is expressed in many varieties. Apart from the melancholic logorrhœa already noted, one frequently hears forced utterances marked by word, stem and sound association sometimes marked by spelling and neologisms. Or again, the patient essays to express his sentiments in a pseudo "language," which at a later stage he will purport to "translate" if requested to do so. A patient in this asylum indulged in this class of speech during the whole term of a katatonic phase, and subsequently "translated" the ideas he had striven to express. It is noteworthy that the patient was the son of a deaf-mute, so that there was a clear association of hereditary tendency to disorder of the speech centres.

Accepting the term in a restricted sense, all difficulty is swept aside so far as its utility is concerned; the other separate forms of mental disorder which Kraepelin included in it may be relegated each one to its former category. Dr. J. S. Bolton has recently very ably justified this course, though possibly he goes beyond the mark when he asserts that the non-appearance of dementia is accidental rather than essential. It cannot be denied that in some instances a life-long intermittence of those hybrid attacks has left patients absolutely free from dementia. At the present time the writer has under observation an octogenarian who is a marked illustration of this fact, as after many successive attacks he is in the intervals marvellously intact in his mental faculties and as wise as a patriarch of old. Senility does not necessarily seem called on to pay the debt of decay in every case.

Not even Dr. Bolton's theory of "carefully conserved amentia" will meet such cases as this, nor is it certain that asylum *régime* is so very effective as to efficiently protect the cortical

neurons from permanent injury, though the patients are placed under most favourable surroundings. But though there is no organic pathology yet demonstrated as associated with this life-long disorder, surely some pathological condition must underlie it, causing intermittent damage, if not altogether "permanent injury" to the neurones. Is it not possible that apart from amentia in any degree there is in the affected individual a pathological condition (not necessarily in the neurons, though of a kind to affect their normal function), bearing somewhat the same relation to the condition that is pathognomonic of chronic melancholia and chronic mania, that true angina pectoris, with its associated cardiac and aortic disease, bears to angina vasomotoria, which never kills and leaves no organic change?

From my observations I come to the following conclusions:

(1) That the "mixed form" is the only form worthy of acceptance. It alone can be diagnosed from the single attack. Single attacks of mania or melancholia, which in the light of previous or subsequent history may prove to be links in the chain of so-called "maniacal-depressive insanity," cannot be so recognised in the absence of such history.

(2) That the incidence of the "mixed form" attacks is intimately associated with the stress of the age epochs, with toxic influences (alcoholic, etc.), and with sexual excesses.

(3) That the "characteristic syndrome" of the "mixed form" may be found—

(a) Incidental to marked congenital mental deficiency.

(b) Associated with epilepsy.

(c) In a certain class of general paralysis.

(d) After operations.

(4) That the "mixed form" is sometimes unconsciously adopted by malingerers who are generally of the neurotic type. Such a case has come under the writer's notice—an alcoholic police officer who was pseudo-maniacal, depressed and stuporose in turn, was obliged to confess his fraud.

A somewhat like case was reported in America, where a man of the same occupation and habit murdered his wife. After many varied phases associated with physical symptoms, he confessed he was malingering, and went calmly to the electric chair to expiate his crime.

(1) Read at a meeting of the Irish Division of the Medico-Psychological Association, held in Dublin, November 7th, 1908.

Report on Thirty-one Cases of Maniacal-Depressive Insanity which came under treatment in the Down District Asylum during the year ending December 31st, 1907. By JAMES COTTER, L.R.C.P.S.E., Assistant Medical Officer, Down District Asylum, Downpatrick.

FOR the purpose of this report the definition of Maniacal-Depressive Insanity as laid down by Kraepelin has been adopted.

There were in all 31 cases, 16 males and 15 females, making 19·6 *per cent.* of the total number of new cases admitted during the same period.

The case-books have furnished the particulars contained in the subjoined table, and have been most carefully verified, as far as possible, by exhaustive inquiries.

Taking each of the headings *seriatim*, we find as under :

Age.—For purpose of comparison, the present age, and the age at first attack, where there were more than one, are given together.

Age	First attack.	Present attack.
Under 25 years. .	22·5 <i>per cent.</i> .	9·6 <i>per cent.</i>
Between 25 and 35 .	22·5 " .	22·5 " .
" 35 " 45 .	19·3 " .	22·5 " .
" 45 " 55 .	19·3 " .	25·8 " .
" 55 " 65 .	6·4 " .	9·6 " .
" 65 " 75 .	" .	9·6 " .

It will be noted that by far the greatest number of cases occurred before the age of 35.

Sex.—Although the sexes are practically equal in the table when compared with the numbers admitted during the year, the female sex predominates in the proportion of 21·7 *per cent.* females to 17·9 *per cent.* males.

In no case was the disease associated with pregnancy at the puerperal period.

Heredity.—In 70·9 *per cent.* of the cases under review a markedly insane history was obtained.

In 29 *per cent.* a hereditary taint could not be ascertained. Of the total number of cases admitted during the year, 42·4 *per cent.* showed a markedly insane stock, whilst in 57·6 *per cent.* no such history could be ascertained. This shows the

Table of Cases.

Name.	Age.	Sex.	Social condition.	Heredity.	Previous attacks.	Age on first attack.	Delusions.			Hallucinations.		Result.*
							Exalted.	De-pressed.	Persecutory.	Visual.	Auditory.	
W. J. L—	35	M.	M.	—	1	31	Yes	Yes	Yes	—	Yes	R.
G. M—	7	M.	S.	Cousins	0	—	Yes	Yes	Yes	Yes	Yes	R.
J. D—	65	M.	M.	Two brothers	1	53	—	Yes	Yes	—	—	R.
J. C—	56	M.	M.	Grandfather	1	53	Yes	Yes	—	—	—	R.
H. S—	50	M.	M.	Father	0	—	Yes	Yes	—	—	—	D.I.
J. W—	28	M.	S.	Two brothers	0	—	Yes	Yes	—	—	—	R.
W. S. M'C—	48	M.	S.	Uncle and aunt	1	45	—	Yes	Yes	—	—	R.
R. H. W—	26	M.	S.	—	0	—	Yes	Yes	Yes	Yes	—	H.
J. P. G—	25	M.	S.	—	1	22	Yes	Yes	—	—	—	H.
H. K—	23	M.	S.	Uncle	1	22	Yes	Yes	—	—	—	H.
T. R—	30	M.	M.	—	1	29	—	Yes	Yes	—	—	H.
P. S—	70	M.	M.	Cousins	6	41	Yes	Yes	Yes	—	—	R.
R. C—	48	M.	M.	—	15	34	Yes	Yes	Yes	Yes	Yes	R.
H. M'G—	46	M.	S.	Cousin	0	46	Yes	Yes	Yes	Yes	—	H.
J. D—	45	M.	M.	{ Father Uncle Brother	0	—	Yes	Yes	Yes	Yes	Yes	H.
M. P—	39	M.	S.	Father deaf-mute	1	34	Yes	Yes	—	Yes	Yes	R.
M. H—	40	F.	M.	{ Twins { Mother	0	—	Yes	Yes	Yes	Yes	Yes	H.
L. G—	40	F.	S.	{ Aunt	0	—	Yes	Yes	Yes	Yes	Yes	H.
E. L—	40	F.	S.	{ Grandmother Two sisters	1	28	Yes	Yes	Yes	Yes	Yes	H.

* R. Recovered. D.I. Discharged insane. H. In asylum at present.

Table of Cases—continued.

Name.	Age.	Sex.	Social condition.	Heredity.	Previous attacks.	Age on first attack.	Delusions.			Hallucinations.		Result.*
							Exalted.	De-pressed.	Perse-utory.	Visual.	Auditory.	
R. M— .	28	F.	S.	—	3	19	Yes	Yes	—	Yes	—	Died.
R. A. M— .	30	F.	S.	{ Father Brother	0	—	Yes	Yes	—	Yes	Yes	H.
C. M'L— .	27	F.	S.	{ Uncle Aunt	1	24	Yes	Yes	Yes	—	Yes	R.
M. J. O'D— .	24	F.	S.	—	0	—	Yes	Yes	—	—	Yes	R.
J. M— .	59	F.	M.	Cousins	0	—	Yes	Yes	—	—	Yes	R.
T. C— .	35	F.	S.	{ Brother Sister	0	—	Yes	Yes	—	—	Yes	H.
S. J. A— .	58	F.	S.	Brother	0	—	Yes	Yes	—	—	Yes	R.
E. M— .	40	F.	S.	—	0	—	Yes	Yes	Yes	H. of smell	Yes	H.
E. J. L— .	50	F.	S.	{ Mother Two sisters Brother	0	—	Yes	Yes	—	Yes	Yes	R.
J. M— .	47	F.	M.	Cousin	1	46	Yes	Yes	Yes	Yes	Yes	H.
A. J. G— .	69	F.	M.	—	4	29	—	Yes	Yes	—	Yes	R.
M. A— .	54	F.	S.	Cousins	7	20	Yes	Yes	Yes	—	Yes	R.

* R. Recovered. D.I. Discharged insane. H. In asylum at present.

part played by heredity in this particular form of mental disease.

Number of previous attacks :

15 were suffering from 1st attack.

11 had 1 previous attack

1 " 3 " attacks

1 " 4 " "

1 " 6 " "

1 " 7 " "

1 " 15 " "

Form of disease.—Maniacal: No case under treatment.

Mixed: These were divided into A and B.

A. Showing exaltation and depression in a single attack.

B. Showing exaltation or depression separated by a well-marked lucid interval.

A. Males 22.5 *per cent.* Females 32.2 *per cent.*

B. " 19.3 " " 12.9 "

Melancholic: Males 9.6 *per cent.* Females 3.2 *per cent.*

Hallucinations.—Hallucinations of one kind or another were present in 90 *per cent.* of the cases.

Social condition.—Married 38.7. Single 61.2.

Result.—Fourteen patients were discharged recovered within the year, the average length of residence being five months; 3 were since discharged recovered; 1 was discharged insane, to care of friends; 1 died; 12 remain in the asylum at the time of writing. Of the patients who were discharged recovered, two have been re-admitted within the last few months.

It is worthy of note that in the melancholic cases the physical and mental disturbances were less marked, and that they made a more rapid convalescence than was the case in the mixed types.

Note on Dr. Cotter's Report by Dr. Nolan.

When my colleague undertook to make a return of the cases of maniacal-depressive insanity, he referred to me for his best guide, and I suggested Kraepelin. Accordingly the return was framed on the classifications of Kraepelin, *and the cases were grouped as that author would have grouped them.* This was done without prejudice to personal opinion, and merely as an adaptation to suit a special purpose, *viz.*, to

ascertain what proportion of the year's admission could be differentiated, were Kraepelin's classification to be adopted *without question* as to its soundness. As a result the return covered the vast majority of the recoverable admissions, and in this way support the view that Kraepelin's classes are artificial and without practical value. Personally, I hold that the term "maniacal-depressive insanity" might be retained with advantage to classify a limited number of cases which are characterised by acute mixed symptoms in recurrent attacks which are not followed by dementia.

Maniacal-Depressive Insanity amongst the Male Admissions to the Richmond District Asylum in the year 1907. By J. M. REDINGTON, F.R.C.S.I., Assistant Medical Officer, Richmond Asylum; and P. J. DWYER, M.B., Clinical Assistant, Richmond Asylum.

IN examining the male cases admitted to the Richmond Asylum during the year 1907, special attention was paid to the mixed variety of maniacal-depressive insanity as described by Kraepelin. The result, I must say, was disappointing, for out of 292 admissions only one case came under this head. It is only right to state that fifty-five of these cases were drafted to the Portrane Auxiliary Asylum, where I was unable to follow their history. Of these 292 cases 42 were suffering from acute mania and 59 from acute melancholia, and neglecting the cases sent to Portrane, none of these, with the one exception, departed from the ordinary course of these diseases.

W. M—, æt. 41, builder's clerk, was first admitted to the asylum on December 27th, 1902. There was no history of insanity, epilepsy, paralysis, or other nervous disease. * Father died of phthisis. Patient was temperate and never had syphilis.

Mother states that patient had an extraordinary memory, and in every way showed great brain power, and that of late years his whole mind was centred in music. Some years ago he suffered from insomnia. In March, 1901, he became melancholy, and continued so till October, 1902. During this period he remained indoors and showed a great fear of meeting

people, but otherwise spoke and acted in a perfectly rational manner. After this and for two months previous to his first admission to the asylum he became restless, flighty and fidgety, reckless about money, inclined to turn night into day, making senseless purchases, going about in slippers through the streets, without collar and tie, in an evening coat with belt round him, and so on, driving about on cars, dropping papers and other things. On one occasion he was prosecuted for bilking a car driver; he got engaged to be married but seemed to forget all about it; he purchased a number of presents for the young lady and did not pay for them; and he drew cheques on banks on pieces of paper.

On his first admission he was voluble and anxious to display his conversational powers. Though he affected a dry manner it was impossible to make him discuss any subject seriously, his whole talk being one succession of puns and gag with endless digressions and parentheses leading to apparent incoherence. It was impossible to get him to understand or take seriously his position. He seemed quite indifferent. When one suggested it to him he threatened actions against those who put him here, but without the least semblance of anger or seriousness. He gave, when being questioned, pseudo-reasonable and ingenious explanations for all sorts of unreasonable things which he had done, such as purchasing an organ with his very small means, drawing a cheque on the *Freeman's Journal* for £2 to pay his car. He admitted, on being questioned, former depression and sluggishness, and said that while that condition existed he more than once considered very seriously whether he would do away with himself.

He continued in this restless, fidgety, talkative state for three months, when he slowly commenced to improve, and was discharged on April 5th, 1904.

Previous to his re-admission in August of last year he got into his former depressed state, which lasted for ten months. For a month before his admission the depression was replaced by great restlessness. He was excited, reckless, and eccentric, interfering with everyone and everything, smashing furniture, pouring water into his sister's bed, and milk from a jug into his own hat and back again.

When admitted on August, 1907, he was much excited and very indignant, his excitement consisted in constant restless-

ness and perpetual movement. He would not sit quiet for an instant, talked much, and wandered from one subject to another. He was boastful and insolent.

He continued in this excited state till October, 1907, when he rapidly improved, and has remained well since.

As regards the duration of the different attacks this patient suffered from, his first period of depression lasted for one year and eight months. His first period of excitement lasted five months, which was followed by two years and nine months of sanity. In the second cycle of the disease the depression lasted for ten months and the excitement four months. He has now remained sane for one year and one month.

On the Maniacal-Depressive Insanity of Kraepelin.⁽¹⁾
By THOMAS DRAPES, M.B., Enniscorthy.

THE lectures of Prof. Kraepelin, as presented to us in Dr. Johnstone's excellent translation, form a fascinating study. Yet it is probable that with respect to some of them a reader is apt to rise from their perusal with a certain amount of mental confusion. His descriptions, from a clinical standpoint, are delightful reading, and lucid in the highest degree; but when, with the help of new terms, which really only express old familiar facts up to this otherwise expressed, he casts into new groupings cases which have two or three features in common, although differing considerably in their course and in the varying phases of mental disturbance which they present, there is a difficulty in following him. And any scheme of classification founded on a more or less casual and fortuitous similarity as far as a few symptoms are concerned, while ignoring important points of difference, cannot do anything else than create confusion. No doubt Kraepelin's object, so far as we can judge of it, is to group cases of insanity in such a way as to constitute a real help to diagnosis, and, what is of more importance, to prognosis, in the multitudinous phases of mental derangement which come under our notice, and this object is, so far, a meritorious one. But is the object attained by this method? Is it attainable? The fallacy—for it is nothing else but a fallacy—of regarding any

mere grouping of symptoms of insanity as a distinct disease entity is apparent throughout. Insanity is protean in its manifestations, and the symptoms in any particular case may at one point of its course resemble those of one of the so-called varieties, and at another they may correspond with those of quite a different grouping. This fact alone would seem to indicate the futility and uselessness of founding any system of classification of insanity on symptomatology. The endeavour to do so can only be regarded as an impossible feat, a feat which is nevertheless being constantly attempted with a persistent fondness which is quite pathetic by most classifiers, who seem anxious to rival the punitive labours of Sisyphus or the daughters of Danaus, with similar fruitless results.

The term "maniacal-depressive" is too circumscribed for what it is meant to indicate. It is, no doubt, an advance in our ideas of insanity to have the fact, up till now absolutely ignored in all schemes of classification, now at last admitted—although it would be hardly possible to cite a more perfectly obvious fact—that there is such a thing as mixed insanity, a class into which may be thrown quite a large number, if not a positive majority, of the cases of chronic insanity which people our asylums, who, during some particular day, week, or month, exhibit one phase of mental derangement, and at other times a totally different one. And by introducing this term of "maniacal-depressive" Kraepelin has, no doubt, rendered a service in this direction. But it is too narrow and limited in its scope, and should not be used as indicating a distinct entity, having a definite course and character. The very fact that Kraepelin brackets with the descriptive title "maniacal-depressive insanity" another descriptive term, "circular stupor," shows that the first designation is inadequate; shows that in certain cases there is not merely a condition of mania alternating with depression, but that the same case may also be the subject of stupor. In fact, what Kraepelin emphasises as "by far the most obvious clinical feature of the disease," in other words, its diagnostic symptom, is what he calls "an impediment of volition," and this would seem to be a more roundabout expression for a stuporous or semi-stuporous state. Again, hallucinations and delusions may be present, or they may not. But one striking feature in Kraepelin's writings is that he is not consistent with himself. We need not go

farther than the first two cases of maniacal-depressive insanity which he describes, for a glaring example of this. After describing the first case he says: "This condition differs from that of our melancholic patient in a very definite way, through *the strong impediment of volition and the absence of the apprehensive restlessness* so clearly marked in them. Experience shows that the condition is very characteristic of an entirely different disease, to which we will give the name of 'maniacal-depressive insanity.'" (The italics are mine.) This statement lays down—if it lays down anything—that the *diagnostic symptoms* of "maniacal-depressive insanity" are an impediment of volition and an absence of apprehensive restlessness. Yet, in the description of the very next case, also a presumably typical one, it is stated that she became "apprehensive and restless," saw flames, blackbirds, and dogs, heard whistling and singing, began to pray, screamed out of the window, lamented her sins, and could not sleep. Comment here is unnecessary. But that is not all. In the further account of this second case we read: "The patient has absolutely no clear idea of her position, does not understand what goes on around her, and cannot solve any mental problems. A similar difficulty in thought is associated with the difficulty in the action of the will. . . . This *impediment of cognition*, as we will call it, is in fact a symptom regularly accompanying the state of depression in maniacal-depressive insanity." Now, look back to the first case: "He has the most perfect comprehension of his surroundings, and is able to follow difficult trains of thought." Could anything be more absolutely different than the mental conditions of these two patients respectively? In the one case the patient is apprehensive and restless; in the other there is an absence of apprehensive restlessness, and we are there and then told that this is one of the diagnostic and special characteristics of the "disease" so-called. The one patient has the most perfect comprehension of his surroundings and can follow difficult trains of thought; the other has absolutely no clear idea of her position, does not understand what goes on around her, and cannot solve any mental problem. Is it exaggeration to say that there is an unquestionable inconsistency in the inferences drawn from these cases, or that such inferences can do anything else but land us in confusion?

This confusion becomes worse confounded as we read a further comment on the same (second) case to this effect : "The condition of severe impediment of volition is generally included with some other and outwardly similar states under the name of *stupor*. We may call the form now before us 'circular stupor,' as maniacal-depressive insanity is often called circular insanity (*folie circulaire*) on account of the cycle of recurrent conditions." Now, does Kraepelin, or does he not, mean to convey that maniacal-depressive insanity is only another name for *folie circulaire*? If he does, I must confess I don't know where we are. Can it be possible that he regards as the same clinical entity cases following such an irregular course as any of those described by him, and a case of *folie circulaire* in the ordinary and accepted meaning of the term? *Folie circulaire* is the one type of insanity which is characterised by a remarkable regularity in its periodicity, so that we can at once recognise a case of the kind without difficulty, and, having recognised it, we are as a rule able to predicate an unfavourable prognosis. But this regularity is just the feature which Kraepelin's cases do not exhibit, and no one who reads them, apart from his comments, and with an unbiassed mind, would dream of including them under the heading of "*folie circulaire*."

In the single example which Kraepelin gives of "circular stupor" there seems to have been an absence of stupor in the ordinary sense of the word. Beyond the fact that the patient was somewhat reticent, and slow and hesitating in her speech and movements, nothing of stupor properly so-called can be said to have been present. The case would seem from the description to have been one of continuous, or almost continuous, melancholia, with "ideas of sin" and suicidal impulse, and how could it be even proposed to regard it as an example of *folie circulaire*?

No one will deny that Kraepelin is an acute observer, and a most accurate delineator of morbid mental conditions; but he does seem to suffer from a kind of psychopathic colour-blindness which has the effect of making him rivet his attention on one or two special features in a case, and draw deductions from these alone, while it seems to escape his observation altogether that certain other features, to the bearing and significance of which he is apparently blind, entirely negative the conclusions at which he has arrived. This kind of mental

obliquity is difficult to account for in a mind of such striking ability and such wide experience in the study of mental disease.

But surely these symptoms of impediment of thought and will are not peculiar to any one of the so-called "varieties" of insanity. They are present in any form which is accompanied by any degree of stupor; in melancholia, in adolescent insanity (or, as Kraepelin would prefer to call it, dementia præcox), in ordinary dementia, in post-epileptic insanity, etc. In his lecture on "Insanity after Acute Diseases" he describes a case in which the patient, after an attack of erysipelas, became deranged: "The patient understands with difficulty, has to think a long time over simple questions about her age and birthday, answers hesitatingly, and in monosyllables." Is not this "impediment of cognition"? "She does not obey orders until they have been given repeatedly and emphatically." Does not this correspond with what Kraepelin describes as an "impediment of volition"? And he seems to be quite alive to this himself, as he says later on: "Forms such as this are generally included, together with certain pictures of dementia præcox [there's a delightful vagueness about this phrase] and maniacal-depressive insanity, under the name of an *infectious state of weakness*." Another coinage, as an addition to our already overloaded terminology! Does it make any addition to our knowledge of such cases?

Once more, in his lecture on "Mixed Conditions of Maniacal-Depressive Insanity," Kraepelin states that "a cheerful frame of mind, *with facility of expression of the will*, usually accompanies maniacal-depressive insanity." Now facility of expression of the will is the direct antithesis of strong impediment of volition, which in his first lecture on the subject he describes as, "by far the most obvious clinical feature of the disease," in fact, its chief diagnostic symptom. Are not these two statements absolutely inconsistent? How can they possibly be reconciled? The other diagnostic symptom given in the first lecture is the "absence of apprehensive restlessness." Yet, in the second lecture, in each of the cases described the condition of morbid apprehension and restlessness was a prominent feature. The first patient in his first attack was "sad, thoughtful, and over-anxious on account of a tape-worm from which he suffered"; in the second attack he was "very confused and apprehensive

expressed ideas of persecution, and had to be fed artificially." In the second case the patient had a whole repertoire of morbid apprehensions, believed he was to be kept for ever and ever in the penitentiary, that he was thought to be incurable, that he was certainly to be put to death; "had groundless anxieties, showed great apprehension," etc., and "great motor unrest showed during the whole illness." In this patient also there was "full freedom of the expression of the will." Here, again, there is absolute incompatibility with Kraepelin's original description of maniacal-depressive insanity. In *that* the diagnostic symptoms are impediment of volition with absence of apprehensive restlessness; in *this* great apprehension with great motor unrest, while there was full freedom of expression of the will. Could anything be more contradictory?

In the third case, the patient was full of delusions of the morbid, apprehensive, and persecutory class, "overheard people in the street who threatened to shoot him, and to set fire to his house. In the streets, voices pointed out the way he ought to go to avoid being shot; behind doors, windows, hedges, pursuers seemed everywhere to lurk," and so on.

In the face of such discordant statements, how can we for a moment accept the contention that there is a distinct psychopathic entity corresponding to what Kraepelin terms maniacal-depressive insanity, which in the first instance he affirms is characterised by certain definite diagnostic symptoms, while in several of his illustrative cases, not only were these special symptoms absent, but the very opposite symptoms were present? Surely we can come to no other conclusion than that there has been an error of judgment on the part of the writer, and that there is no such "disease" as he postulates; or, rather, that the very different cases which he describes may be all included under the simple general term of "mixed insanity," a term which I am not without hopes that our authorities on classification will, one day or other, see fit to adopt. It involves no theory, it avoids confusion, it expresses a fact obvious to all.

DISCUSSION

At the Meeting of the Irish Division in Dublin, November 7th, 1908.

Dr. RAINSFORD said that the Association was under a debt of gratitude to Kraepelin for providing so fruitful a topic of discussion, but he himself was still far from clear on the subject. He related the case of a lady who, at the age of

29, had been attacked with mania followed by melancholia, and then by apparent recovery. Later, another attack occurred with the sequence mania-melancholia-stupor. He wished to know if this was a case of maniacal-depressive insanity.

The HON. SECRETARY alluded to the prominence of pseudo-logical reasoning in cases of folie circulaire. He expressed dissent from the theory of maniacal-depressive insanity as defined by Kraepelin.

Dr. MILLS had never recognised this entity amongst the patients at Ballinasloe Asylum, the majority of whom were persons of weak mind in a stuporose state.

Dr. DONELAN said that a number of cases only had one attack, and wished to know if they were supposed to go through all the phases in such a single attack.

Dr. COTTER stated that in his paper the word "attack" meant "admission." Melancholia was the first stage and then mania. Eight of his patients should, in his opinion, be classed, not as maniacal-depressive cases, but as cases of recurrent melancholia.

Dr. DRAPES thought that the irregularity of these cases was an argument against maniacal-depressive insanity as an entity, and advocated the use of the term "mixed insanity" to cover all cases of that type.

The Case for Dementia Præcox.—By THOMAS JOHNSTONE,
M.D., M.R.C.P.

BEFORE submitting to you my ideas on the much-disputed question of dementia præcox, there are one or two points in the papers of Drs. Jones and Urquhart to which I should wish to draw attention. I will take them in the order in which they occur.

We need not ask Dr. Jones to seek for the origin of hebephrenia in any such romantic source as the goddess of youth. In common with many medical terms this word might be derived from a mixture of Latin and Greek, *viz.*, "hebes," dull or stupid (old English "hebet"), our English word "hebetude" being from the same source; and the Greek "phren" with its ordinary signification.

As far as I can see, the derivation of paranoia comes from the Greek verb "paranoio," meaning "to understand wrongly" (a similar word, to which I will refer later, was in use in English medical books half a century ago). "Paranoia" is thus a more accurate term by which to describe that particular condition than is "monomania," for though its victims may understand, they understand in a wrong way, and this peculiarity is not confined to one subject only as the term "monomania" would imply.

Later on I will deal with other words which would appear to be as stumbling blocks to Dr. Jones.

Not till we have gone through two-thirds of Dr. Jones' paper do we come to his denial of dementia præcox as a separate entity, yet, in the last sentence of the same article, he tells us that "it is more in harmony with practice and of greater help in diagnosis and treatment to use in place of 'dementia præcox' the term 'adolescent insanity,' suitably divided as at present"! From this it would appear that the question of entity or non-entity for dementia præcox is determined by the name it bears.

In dealing with adolescent insanity, Dr. Clouston says that the inmates of public asylums consist of about 50 *per cent.* of such cases, and Professor Kraepelin puts the figures even higher for dementia præcox, but Dr. Jones says that at Claybury, with 2,500 occupants, not $\frac{1}{2}$ *per cent.* of such cases could be found. This is very remarkable, and might be explained in different ways. With a discrepancy of over 50 *per cent.* in statistics there ought to be some explanation.

Dr. Urquhart's paper contains much valuable information—though not always bearing directly on the subject at issue. In it he ascribes to me the following quotation ⁽¹⁾: "evolution and development are active up to forty years of age," whereas, he continues, anatomists and physiologists say they cease at twenty-five. I have no recollection of using these words. What I did say, and still adhere to, was that dementia appearing before the age of seventy is premature. Who among my hearers would think of asserting that the mental evolution of, let us say, Dr. Clouston, or of Dr. Urquhart himself, terminated at twenty-five? Most of the best and finest intellectual work is the product of brains very many years older than twenty-five.

Dr. Urquhart also misquotes me ⁽¹⁾ when he states that I said the diagnostic feature of dementia præcox is a peculiar and fundamental want of any strong feeling of the impressions of life. This is only part of the sentence. My remark was, "that Kraepelin describes the condition as a peculiar and fundamental want of any strong feeling of the impressions of life, with unimpaired ability to understand and to remember"—a very different condition. Further, Dr. Urquhart takes objection to Kraepelin's including a case aged 56 years, inasmuch as this has not hitherto been regarded as a precocious period of life. In a healthy life this may be true, but it is equally true that it is a premature or precocious age at which to become demented. Paragraph 4 deals with a sympathetic hand as to whether the

term "adolescent insanity," or "dementia præcox," shall be the survivor, and ends with the hope that the latter may not supersede the former. Adolescent insanity was known, and adolescence recognised as the cause of it, years before Dr. Clouston wrote on the subject. Moreover, Dr. Clouston limited the time of such cases to twenty-five years of age, but experience proves that similar cases occur later in life, and that the original term is inadequate, and does not cover the whole ground. Why, then, should Dr. Urquhart, or, indeed, anyone else, hope that "adolescent insanity" should not be replaced by the more elastic term of "dementia præcox"?

It is to be regretted that in both papers the authors confuse dementia with dementia præcox.

Having disposed of these little inaccuracies, let us now turn to our subject.

Dementia Præcox.

If asked "what's in a name?" the following answer might fairly satisfy a scientific assembly like the present: in a well-chosen name is comprised our knowledge of the thing named. In the infancy of all the sciences terms are few and indefinite. But in the progress of a science, as discoveries and inventions are made, old terms may have their meanings altered, and new terms may be coined, until a more or less technical vocabulary is obtained. In the words of that great pioneer in medical psychology, Professor Laycock (1), teacher of Sir J. Crichton-Brown, Dr. Clouston, Dr. Hughlings Jackson, and many others to whom we owe so much, "Unscientific persons and unlearned practitioners usually display an ignorant impatience of these scientific languages, and demand that the man of science shall express his knowledge in plain English. But experience amply shows that our Anglo-Saxon mother-tongue has so degenerated in its inflexions as to have become too unpliant for this purpose; it is principally the German language, of modern tongues, which is capable of this scientific development." Hence the necessity for Greek and Latin roots. Even our elementary school books are full of such words as "syntax," "prosody," "multiplication," "algebra," etc. This being the case, considerable latitude must be given to the introduction of new terms when dealing with a progressive science.

About a generation ago many of us can recollect the position occupied by phthisis in the medical mind. Tubercular meningitis was one disease, tabes mesenterica another, while phthisis pulmonalis, white swelling, and strumous glands were yet others, though all were in some way connected. Still it was not until Koch's great discovery of the tubercle bacillus that those various conditions were woven into one harmonious whole, and their identity proved. So it was until quite recently with dementia præcox. You had adolescent insanity, infantile insanity, pubescent insanity, hebephrenia, katatonia with stupor or excitement, and so on. It was reserved for Kraepelin, by his wonderful powers of observation, painstaking attention to detail, and ability for classification, to recognise in these apparently separate entities certain salient points common to all, and to marshal them provisionally, for want of a better name, under the heading of "dementia præcox."

Now, to the best of my knowledge, to assert that in any text-book in the English language there is to be found a description of dementia præcox at all comparable to Kraepelin's (2) is as irrelevant to the elucidation of this discussion as to say that either he or his followers pretend to diagnose dementia præcox simply by shaking hands with the patient.⁽²⁾

Dementia præcox must be regarded as a general disease of the nervous system, and is the disease most common among the insane. It may occur at almost any age, cases being reported approaching sixty years, and though both sexes suffer, those cases occurring between eighteen and twenty-five years of age are more frequent among males, possibly, as Manheimer (3) suggests, because this is the age at which the responsibilities of life increase, and poisons, tobacco, alcohol, and the like begin to be more freely indulged in. If the toxin be a general one—a blood poison—then various parts of the cerebro-spinal centres may be attacked, either vicariously or altogether. If the motor and sensory centres be affected in turn this must not be regarded in the light of cause and effect—that is to say, if a motor centre be affected, and subsequently a sensory, the former has not caused the latter, but the result is due to the general poison first attacking one part and then another. If the muscles of the limbs were alternately stimulated to extension and contraction clonic spasms would result. If the flexors and extensors were equably and continuously active

then there would be tonic spasms. This also applies to the muscles of the mouth, face, eyes, trunk, etc. Again, just as early eye symptoms may appear in locomotor ataxia, and spinal symptoms in general paralysis of the insane, so may the poison in dementia præcox attack an unusual set of muscles. This will help us to understand the immense variety of the motor symptoms—spasm, “snout-cramp,” laryngeal noises, catalepsy and the like. Here I would mention that up to the present nothing reliable has been established about the pupillary signs, as Bianchi has pointed out.

Dementia præcox may begin slowly and so insidiously that the antecedent symptoms may be overlooked until the disease is fairly developed, or, though the patients may not actually break down in health, a general and decided change in their nature and disposition takes place, or hallucination or delirium may suddenly begin. There is usually some failure of nutrition as an exciting cause combined with a well-marked history of neurotic inheritance. Irritability, apprehension, desire for solitude, depression, excitement, or those two last indications varying rapidly or replacing each other, are early symptoms. As the disease advances other phenomena, such as a kind of moral anæsthesia, emotional indifference, carelessness and slovenliness as to personal appearance, habits, or the ordinary observances of civilised life appear. The sensory symptoms, according to Masselon (4), may be thus described: “an habitual state of emotional apathy; these troubles are intimately connected with the troubles of intelligence—they are of the same nature—the patients no longer manifest any desire—all volition is interrupted, remittent or spasmodic—the disappearing of desire is connected with all the other troubles of mental inactivity—a real torpor of cerebral activity; the elements of the mind have a tendency to live an individual life, being no longer systematised by the inactive mind.”

Take along with this Kraepelin’s idea of emotional dulness, apperceptive weakness and inaccessibility, with comprehension and memory of a certain kind, and you have a fair picture of the mental attitude of these patients, but no word or phrase has yet been found to fully and faithfully designate the phenomena. It is the man himself, the ego-complex, who makes the effort of will, and not his consciousness of willing, which is a state coincident with evolution of force. Hence it happens that all

those actions which indicate states of consciousness may occur independently of consciousness; they are, in fact, cerebral reflex actions strictly analogous to ordinary spinal reflexes. We cannot observe thoughts or feelings, but we can observe actions, and in practice, though we recognise certain actions, we may be in doubt as to the conscious state of the persons performing them. So long as the encephalic changes are healthy in responding to the environment of an individual nothing abnormal takes place, but by the faculty of imagination cerebral changes may happen which have no correspondence with external things, and when these are morbidly produced delusions and hallucinations as to events arise having no more foundation in truth than the more simple allusions of the senses, or mere phantoms. The physiological type of these sensorial changes is dreaming, and *paroneiria* (or morbid dreaming) has been compared by many modern writers on the subject to *dementia præcox*.

That dreaming is so nearly allied to normal intellectual life, and the transition from one to the other so rapid and apparently easy, should help us to expect and to understand the immense number and variety of the symptoms found in precocious dementals, inasmuch as so many of them are simple aberrations from the normal, often only normal conditions exaggerated or lessened.

Jung (5) says, "The dream, which has so many analogies with *dementia præcox*, shows the same special condensation of whole sentences and situations." He mentions a simple dream of his own which shows at once condensation and neologism. Someone in his dream wished to show appreciation of a certain situation, and made the remark, "This is fimous." This is a corruption of (1) fine, (2) famous. This example reminds us of the "portmanteau" language in Lewis Carroll's "Through the Looking Glass":

"T'was brillig and the slithy toves
Did gyre and gimble in the wabe,
All mimsy were the borogoves
And the mome raths outgrabe."

If, like *Alice*, you wish to know the meanings of those words, you must refer to *Humpty Dumpty's* explanations. This is not the only instance in that book illustrating the behaviour of precocious dementals. You may perhaps remember that when

Humpty Dumpty explains these condensed words to *Alice*, he says, "You see its—like a portmanteau—there are two meanings packed up into one word."

It is a curious coincidence how a case of dementia præcox reported by Jung corresponds exactly with this. A patient of his who wished to assure him of her perfect health, said: "That I am well is handclear." As he says it may easily be seen that this formation comes from: (1) That lies on the hand (German *idiom* for "it is evident"); (2) that is as clear as noonday.

Lewis Carroll's story was that of a dream; and Jung says: "Let a dreamer walk about and behave like a person awake, and you have a clinical picture of dementia præcox."

The *materies morbi* in dementia præcox attacks the latest and highest point reached in evolution, namely the ego-complex—the individuality or personality—and disintegrates it. I do not say destroys it, because in those cases where cures result the personality is restored. In ordinary mental life any psychical activity that has a fixed aim—a resolution—is accompanied by contrasts; moderation and co-ordination demand this. Such a resolution would be followed by association of contrast, but if this occur in debility or disease, where there may be a lack of energy, and the individual cannot master the contrasts, only irresolution follows. This law of compensation or association contrasts is often visible in dementia præcox.

Thus we have irrepressible ideas in contrast to what Jung calls "withdrawal of thoughts"; fair comprehension in contrast to the patient's general inaccessibility; stereotypism, suggestibility and automatism (terms varying more in degree than kind), as a contrast to negativism.

The peculiar form of memory observed in precocious dementers is almost valueless for practical use, for, being unaccompanied by attention, it is like that which happens in normal people when they are said to be "wool-gathering" or "star-gazing" instead of attending to their surroundings. Or it may be compared to the memory of a dream, when something subsequently arises to remind the dreamer of what took place in that dream, leading to the expression, "That is my dream come true."

The law of association of ideas becomes, in precocious dementers, a law of dissociation of ideas. Hence the slowness,

aimlessness, and utterly disjointed nature of their incoherence, as compared with that of ordinary mania, where, according to Clouston and Bevan Lewis, it is almost always possible to obtain some starting point or connecting thread. The reverse is the case in dementia præcox. So with negativism, which has been explained in different ways. Instead of being an aimless resistance, one has reason to suppose that it might be due to some real terror, or to some plan of the patient's, whose mental working we may infer, but cannot always see. Kraepelin (6) says: "One may, perhaps, venture to think that the absurd speeches of the patients (precocious demented) are not simply 'nonsense,' perhaps still less the wilful product of wanton ill-humour, but the expression of a peculiar disturbance in finding words, which seems to be nearly related to that of a dream."

Jung seems to think that in speech it is an effort to give an evasive answer, to talk "round" the question without touching the kernel, while in pure motor acts it might mean simple resistance. Some French authors ascribe it to lack of capacity to formulate an answer or reason. Bleuler (7) also divides negativism into two kinds, one with a reason for the behaviour, and the other from simple obstinacy. Probably each explanation may prove correct on occasion, and all are agreed that it may be both active and passive in any given case, the passive easily becoming active when the complex or tender point is approached. In ordinary life many never answer a question in a direct manner (the Scotchman is accredited with answering one question by asking another!), and others display much skill in trying to conceal the indirect methods they practise in the pursuit of their negativistic inclinations.

Stereotypism is the adherence to a continuous repetition or reproduction of certain actions, words or phrases, and is a characteristic symptom in dementia præcox. According to Spencer, stereotypism in the form of automatism is one of the most usual phenomena in the development of normal intellectual life, and is brought about thus: In order to work out anything special, in the first instance our whole attention is fixed on the idea, to engrave the process on our memories, but by constant repetition (practice) the action becomes automatic—the slightest touch setting the mechanism in motion. The naughtiness in children illustrates this.

Accentuation of feeling in precocious demented, whose personality is almost lost, if repeated can develop stereotypism in an exaggerated form, and monotony if the complex becomes fixed. It seems most probable that both in dementia præcox and in hysteria those movements or acts of stereotypism may have their source in some antecedent thought which it is not always possible to trace. According to the Wallerian law that the line of degeneration is in the line of functional activity, those automatisms or stereotypisms tend to change somewhat by their very repetition. Thus, in a patient of Jung's, the act of combing the hair became stereotyped movements with the hands, but several inches in front of the face and chest. So, also, stereotyped phrases may become disjointed senseless monosyllables, and in this way is explained the disappearance in dementia præcox of paranoid symptoms, and the modification of other symptoms as degeneration proceeds. Verbigeration becomes a "word-salad" (Jung) and the victims of the disease in its early stages often resent having to listen to the "gibberish" of the advanced cases.

The chief varieties or subdivisions of dementia præcox consist of the simple form, the katatonic, including katatonic stupor and katatonic excitement, and the paranoid. And here let me emphasise the fact that paranoia is a distinct and separate disease from that of dementia præcox with paranoid symptoms. With the theory I hold of poisons being directed towards parts of the nerve centres, with varying virulence at different times and in different people, it is easier to comprehend why certain symptoms should be more predominant in one case than in another, and so cause the necessity for the subdivisions. Many of the indications mentioned in describing dementia præcox and its varieties are also made use of in describing the symptoms of other mental diseases, and this is not at all surprising. The same thing occurs in general medicine; for instance, pneumonia, pleurisy, bronchitis have many symptoms in common, so also have enteric fever, appendicitis, and gastro-intestinal catarrh, and the differentiation of some of the exanthems is often very difficult on account of the similarity of the signs; but in each example, by watching with care and patience the evolution of the disease, a true diagnosis can generally be obtained. So do we hold that a separate entity may be established for dementia præcox notwithstanding the general nature of many of the signs,

inasmuch as it possesses well defined characteristics peculiarly its own.

In his article on "Sensory Insanity" even Bianchi (8) would deem dementia præcox worthy of a "nosological dignity" but for the fact that the appearances in the early stage are such that he is unable to give a true prognosis of the case. Alas! how many of our diseases would be nameless were this idea strictly adhered to. In this same article he cites two typical cases of the paranoid form of dementia præcox. Further, he says, "It is to be added that the symptoms of dementia præcox are not peculiar to it alone, but belong also to the confusional states of youth and to many other morbid states—hysteria, epilepsy, organic diseases of the brain—and also for this reason there is no evident need for a new nomenclature." Surely confusional states of youth might in reality be dementia præcox, and symptoms common to hysteria, epilepsy and organic brain disease would, by their occurrence in such diseases, preclude any difficulty in diagnosis.

I have intentionally omitted pathological details, but have a few words to say with regard to toxins. The belief is generally gaining ground that dementia præcox is due to a toxin, but whether it is absorbed from without, or results from tissue metabolism, is quite an open question. Wherever a poison is engendered in the body it has a special disposition to attack the site where it has been developed, *e.g.*, the diphtheritic poison attacks the throat, etc. The poison developed in the nervous tissues, if retained there, would affect mental acts; it has been found that many who suffer from naso-pharyngeal troubles are prone to curious mental symptoms. Adenoids and thickening of the naso-pharyngeal mucous membrane, which becomes congested from slight colds, would prevent the outflow from the veins and lymphatics of the brain in these regions, and it is a fact that such patients frequently have strange dreams, are bad sleepers and somnambulists. I have never believed that all mental troubles associated with adenoids were due to a physical impediment in respiration alone.

Such, then, are my conceptions of dementia præcox. The condition may be compared to the infectious diseases, with early pyrexia and their sequelæ. Which of us diagnoses infantile paralysis at a first visit? And just as some of the well-known infectious epidemics show very mild cases, and

other cases end in sudden deaths, almost before a diagnosis can be made, so we can have severe and rapidly fatal cases of dementia præcox, and also other cases mild enough to recover without asylum treatment. That in two cases apparently equal in severity one should die and the other recover is nothing new in medicine, and I could imagine a diagnosis impossible between a severe case of dementia præcox and an acute case, in a youth, of general paralysis of the insane. Often it is only after the subsidence of the acute symptoms, and the manifestation of those which are characteristic, that a diagnosis can be made.

Finally, I would point out that the sensory insanity of Bianchi and the dementia præcox of Kraepelin are, as far as one can see, much the same thing; it is only the names that are different. Time will not allow me to continue the subject to-day.

I must acknowledge my indebtedness for illumination on many points to Dr. Jung, of Zurich, in his essay on "The Psychology of Dementia Præcox."

(1) Laycock.—*Principles of Medical Observation and Research*, 2nd edition, 1864.

(2) Kraepelin.—*Lectures on Clinical Psychiatry*, authorised translation from the second German edition. Revised and edited by Thomas Johnstone. Second English edition, 1906.

(3) Manheimer.—*Les Troubles Mentaux de l'Enfance*.

(4) Masselon.—*La Démence précoce*, Paris, 1904.

(5) Jung.—*Ueber die Psychologie der Dementia præcox*, 1907.

(6) Kraepelin.—*Psych. Arbeiten*, Bd. v, H. 1.

(7) Bleuler.—*Psych.-Neurol. Wochenschr.*, 1904.

(8) Bianchi.—*Text-book of Psychiatry*, 1906. Translated by J. A. Macdonald.

(1) Cf. *Journal of Mental Science*, p. 347, April, 1905, and author's edition of Kraepelin, p. 29, etc.—(2) Since writing the above I have learnt that Dr. Stoddart has just brought out a book in which over twenty pages are devoted to dementia præcox, on much the same lines.

Dr. STODDART said: In taking advantage of Dr. Jones's kind offer to read his paper in our leisure moments, we find that his objection to "dementia præcox" appears to be against the nomenclature rather than the disease.

Now with regard to his objections to the term "dementia," which means permanent mental enfeeblement, I deny that there is any justification for limiting the use of this word to cases in which there is loss of memory.

Mentation is so enfeebled in most cases of dementia præcox that the patients are totally incapacitated from ever more doing any useful work, in spite of the fact that their memory and perception are almost unimpaired. Nor is his objection to the appellation "dementia" in this disease justified by the fact that a few cases temporarily recover, for we know that the same may occur in dementia paralytica; and further, many patients suffering from dementia paralytica die of their disease before any marked symptoms of dementia can be discovered.

And with regard to the term "præcox," may we not take this to mean that dementia sets in very early in the course of the disease, seeing that the original meaning of præcox has now become unjustifiable. Of course, our language teems with words whose meaning has changed with time.

But why is it necessary to attach any weight to the meaning of the component words? I think it was Dr. Pye-Smith who laid down the axiom that the name of a new disease should be meaningless. Let us, therefore, since we cannot at this stage change the name "dementia præcox," which has come to stay, regard the mere words as meaningless, and cease to ferret out the connotation which the word "præcox" (borrowed from a dead language) possessed two thousand years ago. We will then find no difficulty in accepting it.

The name "hysteria" is derived from an ancient Greek word, *ὑστέρα*, meaning "uterus," but we now know that this organ plays at most an insignificant rôle in the disease we call hysteria; but the name is a very good one. And even men who would repudiate the name would never dare to follow up their repudiation by therefore denying the existence of the disease.

Dementia præcox is recognised by hundreds of the keenest workers in our branch of medical science on the continent, from Italy to the Pole, and from Russia to France, as well as in Canada and the United States of America, to say nothing of our own country; and some have described characteristic histological features. On the face of it, is it likely that they are all wrong?

Dr. Jones has himself told us that the disease was recognised by Morel, by Esquirol who called it "acquired imbecility," by Christian who called it "juvenile dementia," and by Clouston who called it "adolescent insanity"; none of which, by the way, are quite synonymous with dementia *præcox*.

All that Kraepelin and his followers claim for dementia præcox is that it comprises many more cases than physicians have hitherto believed, because these cases present common symptoms peculiar to the disease. Of course it has been found necessary to give names to these symptoms, but at these names, again, Dr. Jones sees fit to jeer.

We consider that "adolescent insanity" and "juvenile dementia" are unsuitable terms, because the disease is not limited to the period of adolescence. Nor is it by any means the only form of mental disease occurring at this period of life.

As a matter of fact, Dr. Jones recognises the cases and describes them, but he objects that no hard and fast line can be drawn between the varieties of dementia præcox. That is our very reason for regarding dementia præcox as one disease and not three. That is why we recognise it as an entity.

One reason which was advanced—not by Dr. Jones—why this disease should not be recognised was that we are drawing unnecessarily fine distinctions, and we were treated to the new Shibboleth, "the unity of insanity." What is this? Are we to understand that we are serving no useful purpose in separating cortical disorders due to gliosis from those due to arterial degeneration, those due to the invasion of bacteria, those due to intoxication by fatigue products, internal thyroid secretion, anæmia, and those due to the encroachment of abscesses, tumours and what not?

If this is so, let us be consistent and apply the same principle to the whole of medicine and, when we are called to a patient, make no attempt to ascertain which organ is primarily affected, but let us recognise "the unity of disease" and cease to make such fine academical distinctions as has been done aforetime. What matters it that palpitation may be due to nervous shock, heart disease, indigestion or running for a train? What matters it that convulsion may be due to alcohol, general paralysis or epilepsy?

Dr. BEVAN-LEWIS said: I feel that members of the Association owe Dr. Jones a very considerable debt of gratitude for having so ably presented the subject. It was a very difficult question, but I think we shall all agree that the controversy that has so long prevailed over the connotation of the term dementia præcox, the solidarity of the symptoms which constitute it a special morbid entity, and its relationships to other neural affections which are avowedly and certainly distinct instances of nervous disease, has been of enormous utility. In the first place, in clearing up our ideas upon mental diseases generally; and again, in directing

our attention to those wonderfully complex cortical fields in which disturbances and dissolutions of the higher associational tracts and centra issue in the remarkable congeries of symptoms, we denominate dementia præcox and its allied affections. For this, if for this only, we owe a great debt of gratitude to such men as Kahlbaum and Kraepelin. The symptom-complex to which Kahlbaum gave the name of katatonia, just as the syndrome constituting Korsakow's alcoholic polyneuritic psychosis, and yet again the more complex dementia præcox of Kraepelin, should always keep our minds alive to the fact that we are dealing here probably with simple symptom-complexes, and that the several groupings of symptoms may be infinitely varied in correspondence with presumed diversity of pathological findings. Kraepelin's classification is of course essentially symptomatological, and I doubt not that both he, as well as each one of us here, would not for a moment hesitate to consign the term to the limbo of forgetfulness could we but secure the true pathological basis upon which we might reconstruct a scientific classification of these psychoses. The term dementia has offended many minds, not alone because the gradually progressive emotional and volitional enfeeblement in many cases does not tally with their conception of classic dementia, but because so much stupor and confusion so often cloud the picture, masking the dementia for a considerable time, and so rendering it difficult to arrive early at a definite diagnosis and pronounce a decided prognosis; and also, because a moiety of such cases, and a very fair moiety too, according to Kraepelin, are recoverable, and recoverability is scarcely consistent with a disease which is designated a dementia. I do not, however, place much emphasis upon this objection, for all cases of dementia præcox if strictly limited to those cases originating at puberty and adolescence in my experience invariably, in the long run, betray notable mental enfeeblement of a grade which fully entitles them to the term of dementia. The qualifying term præcox is, in my opinion, still more open to objection, unless we strictly limit the definition to those cases commencing at the epoch of puberty and adolescence, and rigidly exclude all cases of later origin. In this later case the term adolescent insanity so ably defined years since by Dr. Clouston is more applicable, as it is strictly confined to those psychoses stamped by the characteristic and extraordinary exaggeration of features which are normal at this epoch of life, and because it emphasises the epochal stress which in the neurotic and degenerate subject is the all-important factor in the evolution of this form of disease, and at the same time excludes all those anomalous forms of a later origin which Kraepelin has been compelled to admit into his category of dementia præcox owing to the occurrence of certain symptoms regarded as characteristic, although he himself admits that they are of secondary or trivial value from a diagnostic point of view. Stupor and confusional states of all degrees, as we each of us know, are prevalent in diverse forms of mental disease, and at all epochs of life, whether as transient and functional, and dependent upon vascular neuro-inhibitory conditions or toxic agencies, or whether persistent and inorganic, indicating neurone degeneration or dissolutions and disintegrations of the higher associational strands of the cortex; such occur in epilepsy, in puerperal and alcoholic toxæmias, in general paralysis of the insane, and in senile disorganisations. Again, katatonic phenomena—muscular rigidity and spasm, cataleptic fixation, *flexibilitas cerea*, mutism, resistiveness, and all the katatonic features embraced by Kahlbaum and Kraepelin as negativism, whether psychic or automatic in origin, although far more prevalent in katatonic forms of dementia præcox, are, as we are aware, by no means restricted to the adolescent epoch, but frequent in other forms of mental disorder. Again, those speech vagaries—echolalia, verbigeration, staccato-utterances, jargon-aphasia—are also not peculiar to this form of disease; I need but indicate their occurrence frequently in epileptic insanity, alcoholic amnesia, senile dissolutions, arterio-sclerosis, and especially organic brain disease. In fact, Dr. Hughlings Jackson many years ago directed attention to what he called the "recurring utterances" of coarse brain disease, and these "recurring utterances" are of course nothing more than verbigeration and echolalia. In like manner those motor phenomena—echopraxis and stereotypy in all its forms—stereotypism of features, grimace, pantomime, pose, movements, gait, conduct, as well as of written and spoken language, are found at all periods of life, and in diverse mental disease in varied groupings. What we have carefully

to bear in mind is this, that all these symptoms indicate the implication of an extensive cortical field which at this epoch is at the full tide of developmental activity; that our attention should be chiefly fixed upon the sensory speech centres and the linkages of these with the high associational centres or hypothetical conceptual centre of the cortex; and that we should regard the phenomena of this nervous affection as bringing it into the closest relationships with the several forms of sensory aphasia. In this way only shall we have the satisfaction of securing a sound pathological basis for our further clinical observations.

Dr. LEWIS C. BRUCE.—I have read Dr. Jones's paper and I also heard it read. The impression left upon my mind is that it is a criticism upon terminology, and not a criticism based upon the study of the clinical symptoms of disease. I agree with him that the term "dementia præcox" is unscientific and misleading, but, as I understand Kraepelin, he does not apply it to a definite disease, but to a group of diseases. The subdivisions of that unfortunate term, viz. katatonia, hebephrenia, and paranoia are, however, definite diseases, and are accepted as such on the continent, in America, and even in this country. It is true that the symptoms of these diseases often overlap, but this is not an uncommon experience in medicine, and it is not unreasonable to argue that in the insanities we may have mixed toxæmias, just as there are mixed toxæmias in other and better understood disease conditions. Dr. Jones's final summary, in which he states that it is a greater help to diagnosis and treatment to use the term "adolescent insanity" in place of "dementia præcox," can hardly be taken seriously. How can it possibly assist the advance of knowledge if all cases of insanity which occur in subjects under twenty-five years of age are slumped under a term which has no definite clinical meaning? What difference can it possibly make in the treatment of cases, whether they are called "dementia præcox" or "adolescent insanity," when, according to his own arguments, these two terms can be applied to similar diseases?

Dr. CLOUSTON said he had the peculiar advantage lately of being associated with a pupil and friend of Kraepelin, a man who had been for something like twelve months in an American asylum where Kraepelinism was dominant. That gentleman, Dr. MacFie Campbell, was on his staff, and he was in daily intercourse with him. He, Dr. Clouston, was, like everybody, exceedingly impressed with the fact that the term dementia præcox, as well as some of the other members of the Kraepelin classification, seemed to dominate the psychiatric world of America but not that of France or of Italy, and that it was rapidly taking possession of the minds and imaginations of the younger men in this country. And he said to Dr. MacFie Campbell day by day, "I place myself, as it were, at Kraepelin's feet, through you, in order to do him full justice; will you tell me whether this case is one of dementia præcox, or not? And if so, will you kindly tell me wherein you make it out to be dementia præcox?" That, he thought, was doing justice to Kraepelin, and informing himself at the same time. He was particularly anxious that justice in his own mind, so far as that was of value, should be done to Kraepelin, because Kraepelin's dementia præcox was manifestly outing his "adolescent insanity." The one was bowed out at the window, while the other came in at the door. He found that Kraepelin had changed his mind frequently in regard to what dementia præcox was, and was willing to change his mind at any time in regard to the meaning of the term. But Kraepelin was a great clinical observer; that was well known. He did not think they would describe Kraepelin as a pathologist or a man in whom pathological ideas lay at the foundation of his work. Kraepelin was oppressed with the idea, as they all had been—could he find out something, some series of symptoms, by which he could prognose the existence of an incurable mental state at the earliest stages? Every alienist had been oppressed with such an idea in the course of his work, and as the result of careful examination of his patients put a certain series of symptoms together as a symptom-complex—to use one of the new terms which had been so much spoken of—and this occurring in a certain young patient, enabled him to say that man was probably going to recover. If the young man's attention was alert, if his memory was good, if he was in that peculiar state of mania when he

was chaffing his relations, and he was extra happy, it was dementia præcox which was going to recover. Or if it was the stuporose variety of dementia præcox it was not going to recover, or was not likely to. Kraepelin did not pretend that he was done with the subject of dementia præcox. He simply said that in the course of his careful clinical studies he had come to certain conclusions, and that those conclusions were valuable to him in regard to the prognosis and the understanding of his cases. He, Dr. Clouston, had endeavoured, so far as he could, to do justice to Kraepelin's idea, on information from an enthusiastic pupil of Kraepelin's. And what about the weak points of that mode of looking at disease adopted by that great man?—for Kraepelin was undoubtedly a great man. Dr. Jones pointed out, there was an extraordinary want of clearness in the symptoms of the cases which constituted the great group of Kraepelin's dementia præcox. The symptoms often seemed so contradictory. Supposing there was a disease with a symptom common to other disease, they were not all thrown into one group because they had one common symptom. Kraepelin, if he erred at all, erred in that respect. There was a common symptom, but the others were so diverse that he objected to their being thrown together and called dementia præcox, because the differences exceeded the likenesses. Also, Kraepelin manifestly disregarded certain elements in the cases of what he, Dr. Clouston, had called adolescent insanity. He disregarded the question of heredity to a very large extent. He appealed to Dr. Johnstone or Dr. Stoddart on that point. One seldom found the word "heredity" coming into Kraepelin's studies. A man who disregarded heredity to any extent in studies of mental disease, disregarded one of the primary elements of the whole situation. Then, next to heredity, if there was one symptom which was prevalent in the old adolescent insanity, it was that of recurrent periodicity. But Kraepelin said exceedingly little about periodicity in connection with dementia præcox. His studies were, if one might say so, too mental and too little physical; they were characterised by a far more subtle analysis of the mental symptoms than probably Englishmen or Scotchmen were able to follow—they were Teutonic in their subtlety. But in regard to the physical symptoms, and the way of looking at a case, he thought Kraepelin's method was singularly deficient in what Dr. Bruce might be regarded as a good example of—the purely clinico-pathological method—in his studies of cases. He need not say he agreed with Dr. Jones that it was a most evil thing that they should use the term dementia for anything except an incurable mental condition. It led to nothing but confusion, and it could not lead to anything else. That, therefore, was his third objection: that the use of the word dementia to describe a disease which was to a large extent curable was necessarily and of itself an objectionable thing. But with all that, and with all objections to Kraepelin's terminology and his clinical studies, there was no doubt that modern psychiatry owed an enormous deal to him. And there could be no doubt that, imitative as the Americans were, and fond as they were of following in the fashion of things, it yet could not be that all the young Americans were such psychiatric fools as to follow Kraepelin blindly if there were nothing in him. That had been impressed upon his mind strongly, and had made him endeavour to take a judicial-minded view of Kraepelin and his terminology. What if his terminology was wrong, if his facts were right? Therefore they must not be too critical with regard to the mere terminology of the words "dementia præcox." He thought that in a short time they would evolve and have clinico-pathological groups which were unassailable. Meantime they should be thankful for having got a little on the way through the agency of Kraepelin's studies and, if they pleased, through his wrong terminology.

Dr. DEVINE.—It is with some diffidence that I venture to take part in this discussion seeing that I am not in a position to lay claim to a very prolonged psychiatric experience. At the same time I should like to give expression to some reasons why the conception of dementia præcox seems to me to be of the greatest utility in the elucidation of certain cases of insanity, speaking from the point of view of a comparative beginner who is anxious to embrace ideas which are most useful to him in a complex subject. After all the question resolves itself ultimately into a matter of utility. To me the conception of dementia præcox is true because it enabled me to resume the phenomena, which I observe in a patient, into a cohe-

rent whole better than any other way. No doubt in years to come, with further knowledge dementia præcox will undergo modification, but at present it seems to be of more assistance than anything else and is therefore acceptable. No one will deny that one of the most essential attributes of a physician is a capacity for being able to furnish an opinion as to the prospects of recovery in any given case. To those who have had the advantage of many years' observation and experience such an act becomes almost an intuition, but those who have not reached such a position require certain signs and symptoms which are laid down as reasonably indicating that the prognosis is favourable or the reverse. In the large majority of cases apart from what Kraepelin has described I fail to find such indications, and for that reason alone would suggest that his scheme is of the utmost value. Let us see what he says himself in his *Lehrbuch* and what is the extent of his claims. These are his words, "Under the name of dementia præcox we may be permitted for the present to collect a series of clinical pictures whose common peculiarity is a tendency to mental deterioration of varying grades." This phrase deserves notice as it is practically his definition of the disorder. Objection has been taken to the name which is after all a matter of little importance. He himself suggests others (dementia simplex, etc.) but thinks it is provisionally a very useful expression. It must be remembered that the German meaning of the word "dementia" is not quite the same as ours. It has not of necessity the same significance attached to it by Dr. Clouston in the sense of being a permanent and organic state of mental weakness which the Germans describe by the name of *Blödsinn*, e.g. *Alterblödsinn* = senile dementia. Dementia in the German sense is a somewhat ambiguous expression which may signify this organic enfeeblement, but also includes the term *Verblödung*, which simply means a state of mental weakness without implying that such a condition is irrecoverable or permanent. The latter time therefore refers to a particular state of mind at the time, in the same way as mania or melancholia may do. The importance of his conception is the significance he attaches to this peculiar state of "dementia." It means that in 90 per cent. of the cases where it is observed such mental deterioration will follow as will lead to a permanent incapacity to lead a useful life, and even in those cases which do so far recover as to be set at liberty careful examination will usually reveal some degree of mental enfeeblement which was not previously present. The three artificial syndromes he describes are shown to have certain features in common which need not be detailed as they are of course familiar. The important point is this, that when these features are observed one knows one is dealing with a disorder which is the commencement of a downward career leading to mental deterioration. Now this scheme of Kraepelin's is imperfect and admittedly provisional. It needs the criticism which he invites as to how far these various syndromes are indicative of what is going to happen in the future. One sees recoveries sometimes, but this does not destroy the value of the conception. It is necessary to carefully watch the future of the patient and to see if he is really as useful a social unit as he was before and if this is merely a remission, a temporary arrest as it were. If a case of disseminated sclerosis apparently recovers for some years is the conception of the disease "mischievous" and vitiating to knowledge?

Now I maintain that this scheme is the most useful one which has yet been produced for resuming intelligibly a large number of cases of mental disorder, and if a contrary opinion is expressed it seems only reasonable to demand what equally useful scheme is offered in its place. Personally, I know of no scheme except this which helps me to predict, by observation of symptoms, what will probably eventually happen to a case. One is usually told that adolescent insanity as described by Dr. Clouston is a more useful and accurate conception of the type of cases known as dementia præcox. From such a view I respectfully but emphatically dissent, and do so on the ground that the two eminent observers in question are not describing the same thing. They are adopting an entirely different point of view, both illuminating and valuable, but not comparable in any way. The lessons I learn from Dr. Clouston's masterly description of the insanities of puberty and adolescence, a description which is now classical, is the influence which a developmental period has in the production and content of disordered mental states which occur at that period. He shows how such states, whether mania, melancholia, or confusion are coloured by the state of mind, which is normal at such a period. His point of view is, therefore, chiefly a biological one. Kraepelin,

on the other hand is *not* describing the insanities of adolescence. What he is describing is a group of cases, the essential feature of which is a tendency to mental deterioration. It is true that such a group is more common in adolescence, but it frequently finds expression later in life, and if one limits his conception to a particular biological epoch its value is quite lost. The utility of Kraepelin's work consists in the fact that, given, let us say, a case of adolescent insanity, which may be one of several varieties of mental disorder, he has furnished us with something tangible, something by which one may judge if it is likely to lead to permanent mental enfeeblement or not. There is no time to mention the value of the individual symptoms as described by Kraepelin, it suffices to say that in my own experience his descriptions have given a meaning to the incoherent mutterings, the gait, attitude, conduct of even a terminal dement, all these features having acquired a significance which previously they had entirely lacked.

I cannot agree with the pessimistic view of Dr. Urquhart when he says that we have not advanced beyond the position attained by Greisinger in 1861 in regard to classification. I should feel much poorer, for instance, if I were robbed of the associations which are aroused by such terms as manic-depressive insanity, Korsakow's psychosis, hysteria, and so on. I am quite aware that such terms do not indicate any absolutely definite morbid entities entirely distinct from each other, but they each represent ideas which have been, and are, of the greatest utility in forming more coherent notions in regard to the various types of reaction displayed in disorders of the mind. It is thus I regard dementia præcox. Through it insanity has become more comprehensible, and it marks a step in the progress of the science making further advance possible. That this is so is shown by the extraordinary stimulus it has been to workers in this branch of medicine. One sees how such writers as Jung by adopting dementia præcox as a simple working basis, which is all Kraepelin intends it to be, have been enabled to analyse individual cases in a way that has hitherto been unattempted, and to formulate psychological conceptions which throw light on problems hitherto incomprehensible. One finds it hard to look on dementia præcox to which one owes so much as an "undesirable alien."

Dr. J. F. DIXON.—In the face of such scathing criticism and withering ridicule on the part of some of our eminent and experienced members, it requires no small amount of assurance in a junior even surreptitiously and "*in absentia*" to dare to differ. I do so in fear and trembling, buoyed up, however, with the stimulating knowledge that, as in all subjects which are matters of opinion, one finds oneself ranged both with, as well as against, authorities equally eminent. Dementia præcox as a separate entity has been assailed on many points, but its *title* seems the favourite spot on which to concentrate fire; and this appears to me the most hopeful thing for the besieged, who know that it is by no means the key of the position: neither, indeed, is it as vulnerable as the enemy appears to think. What is the use of quibbling over the meaning of the word "dementia" before we have arrived at any international agreement on nomenclature? As to "præcox," although the term rather suggests the inference that the disease is a form of senility, which, of course, it is not; yet why labour the point, as Kraepelin himself says the name is purely provisional (Johnson, p. 23)? Let me, in all humility, suggest "atavistic insanity" as a name which might be acceptable. It is curious to note in this connection that the one disease which we pride ourselves on some knowledge of, pathologically too, is commonly known as "G.P.I." Take again, in general medicine, the term "typhoid." We all know its interesting history, and that it is gradually falling into disuse in favour of "enteric." The conclusion that a term which implies a definite entity should necessarily be distinguished by definite pathological findings simply means, so far as insanity is concerned, that we should have to wipe out all existing classifications. But we must go along as far as we can with the light we have, and then pause till we get more light. Why refuse to move till daylight? Kraepelin has given us a light by which we can single out and arrange symptoms and signs which, no doubt, existed before, but in a dim, hazy, and confused mass. The adolescent insanity of Clouston, with its 66 *per cent.* recovery rate, cannot be the dementia præcox of Kraepelin. I am strongly of opinion that there *is* an entity such as Kraepelin has described, call it what you

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will; and that this disease, while occurring most frequently in adolescence, is separate and distinct from other forms which also occur at the same period. I deprecate the ridicule which has been thrown on such terms as verbigeration, echolalia, echopraxis, stereotypism, negativism, etc., most of which is quite beyond the mark, *e. g.* that negativism is only another term for resistiveness, whereas it is a much more subtle condition. In conclusion, I am much surprised that a distinguished scholar should go out of his way to the secondary, rather than to the primary meaning of a word, in order to throw ridicule on the term hebephrenia.

Dr. G. H. SAVAGE.—I feel a certain amount of difficulty in treating this subject for even in the last edition of my manual, on insanity I have not made use of the term. Yet I feel that there is ground for adopting some general name for a group of cases which we now fully recognise. First, then, I think there is need for a term. Next, I think good rather than harm comes of selecting a name which, though it may neither be perfect in derivation nor complete in its connotation, yet brings together certain symptoms. Definition is like the outposts in a new country, it is an approach to the unknown and indefinite which will lead to more complete knowledge. A definition should be something which gathers but does not fix our experience, its use should be to enable us to advance. If we are to be satisfied with a *name* then a definition is a danger. That there is a definite entity, a real disease deserving the name Dementia Præcox I cannot believe, in fact, as most of you know, I am never tired of quoting myself in saying there is no such *thing* as insanity. I do believe that frequently there are groupings of symptoms which, occurring in predisposed persons, generally lead to mental weakness, I believe too that the symptoms not infrequently conform to certain types. That such cases are not all to be included in *adolescent insanity* I feel satisfied, therefore though many adolescents thus suffer we have to recognise that others than such persons may break down similarly. Next, as to the term Dementia it certainly leaves many with the impression that the disease must be incurable. Yet, I think by now people, doctors at least, have learnt that there is partial dementia and also that there is temporary dementia as seen following fevers, etc., therefore I do not object to the use of that word. As to "præcox," though open to some doubts, yet it is near enough expressing what we mean to satisfy any but the purist and he is never satisfied long with anything. Other objections have been raised because the word denotes a prophesy that the end will be dementia. As might be at once seen the same objection holds good in reference to General Paralysis. Sir Samuel Wilks, in the old days, when visiting Bethlem with me, used to say, "The most energetic and restless patients I see you call paralytics." That is true, but the term is still accepted. I fear I have not contributed much in the way of information, but I must say that as some term is needed for certain groups of cases provisionally, till we can find a definite pathological basis for them, let us fall in with the use of our neighbours.

Dr. HAYES NEWINGTON.—The title under which Dr. Robert Jones has brought this question before us usefully suggests its examination on the lines adopted in a court of law. A critical examination of this kind is most desirable, lest, carried away by the brilliance of clinical representations, we neglect to test the accuracy of the principles on which these representations are founded. Indeed, the questions that arise in testing the validity of a patent or of a claim to register a trade mark are quite applicable here.

Firstly.—Is there any idea, or group of ideas, in the conditions set before us by Kraepelin that merit special consideration and treatment? We can at once answer this question in the affirmative. He has with wondrously vivid words marshalled a series of well-recognised clinical facts in a method all his own, deeply analytical on one hand, industriously synthetical on the other, and entirely philosophical.

Secondly.—Can this arrangement of Kraepelin's be marked off or isolated from all others? Has it enough defined and consistent materiality to enable it to stand alone by itself as an entity of disease, efficiently occupying an allotted space in a considered scheme of classification? There is grave difficulty in answering these questions. The essential mental symptoms are in themselves

hardly of sufficient importance to be treated apart from other forms of *hebetude*. The real importance of the condition lies in their neuro-muscular developments. We will take first for consideration the most marked of these—*katatonia*. At a very early point of our study we find it extremely hard, I might say impossible, to ascertain the precise relations of *katatonia* to *dementia præcox*. Is the former entirely enveloped by the latter, or is it an independent disease, as seems to be implied by its position in Dr. Kraepelin's classification? He himself writes thus when treating of *katatonic stupor*:—"In the main Kahlbaum's long-contested description has proved to be right, though I have to assume that the descriptions of disease summed up by him as *katatonia* are only special forms of *dementia præcox*. At all events, in *katatonia* also disturbances of the emotional province and of action control the condition, while comprehension and memory suffer little in proportion. But then we meet with the *katatonic* symptoms, negativism, stereotypism, more especially the automatic obedience already described, the strange behaviour, and the sudden onset of senseless impulses—in all gradations in the different forms of *dementia præcox*." A logical interpretation of this passage must be that true *katatonia* does not exist apart from *dementia præcox*. This statement is borne out by all the cases cited under either condition. Even in a pronounced case of *katatonic* excitement the development of *dementia præcox* on a foundation of early weakness of intellect is specially pointed out. With one exception, other references to *katatonia* are, as far as I can see, invariably accompanied by clear symptoms or by pointed demonstration of *dementia præcox*. Thus it is in a case of puerperal insanity, aged twenty-nine, which supervened on a third pregnancy. Thus it is again in a male case of delirium, aged twenty-six. In passing one may advert to the inconvenient fact that in each of these latter cases at least two first-class mental disorders are assigned, while in the case of delirium the two disorders thus brought together are, in their psychological essentials, mutually repugnant. The exception alluded to above is that of a female senile dement aged 60. Of her it is written "We are met by a number of symptoms which we have already seen in *katatonic* illnesses—dumbness, negativism, catalepsy, extraordinary attitudes and actions, abrupt alternations of stupor and accessibility, with consciousness of illness, and, finally, hallucinations. If, in spite of this, we hesitate to suggest *katatonia* at once, it is because we almost always see that disease appear at a much earlier age, and there are certain features in the case which are characteristic of senile dementia—namely, suspicion, defective ideas of time, and rapid loss of former knowledge." It was not possible to test the patient's memory on account of her obstinate and apathetic behaviour. But Kraepelin adds a third and startling reason for refusing the diagnosis of *katatonia* in saying that this was not a case of *katatonia*. Single *katatonic* features do not make *katatonia*. In spite of dumbness, negativism, catalepsy, extraordinary attitudes, etc., combined with that apathy which is so suggestive of *dementia præcox*, he will not have the case confused with true *katatonia*. It must be classed as a *katatonic* form of senile dementia. One wonders what the precise number of swallows is that constitutes a summer. Be it observed that there is no question of the genuineness of the symptoms themselves. In the light of this case can it be maintained that *katatonia* is in reality a special form of *dementia præcox*? Until this point is settled we hardly know where we shall be taken by the use of this latter term. The blend under the head of paranoid forms of *dementia præcox* is another instance of combining two diseases founded on two essentially different psychological conceptions. It suggests error or want of precision in definition somewhere. It is difficult from the book point of view to contemplate the co-temporaneous existence in one brain of morbid apathy and active, though misguided, cerebration. There is a little difficulty, too, with the important symptom of negativism, of which we are told that, apart from senile cases, such as the foregoing, it comes under observation virtually only in *dementia præcox*, though occasionally also in general paralysis. Looking up the definition of the term, which, curiously, is found under *katatonia* as a symptom additional to those before described under *dementia præcox*, we find that it is "senseless resistance against every outside influence, which we recognise in mutacismus, *i.e.* forced dumbness—as well as in the whole persistent obstinacy of the patient." I think that many of us have seen that phase in a good number, who are neither young, nor aged, nor paralytic.

Thirdly.—Is the character of the subject conveyed clearly and without confusion by the name attached to it? We really need not trouble much about the dementia. It is Kraepelin's conception of dementia that is before us, not our own. The curability of dementia forms another issue altogether. He certainly uses the word here in a sense different from that adopted by many, just as he uses *amentia*. This in one place he describes as acute bewilderment, in another as hallucinatory confusion. He is not, however, very consistent in the view that he takes of dementia, as in one place he writes of a case ending either in recovery or in dementia, while in this connection he speaks of dementia ending sometimes in recovery. "*Præcox*" is certainly equivocal, as Dr. Robert Jones says. Even if we assume that it refers to age period only, it is yet not clear whether it is intended to connote a form of dementia which occurs so frequently in the earlier years of life as to warrant its being spoken of as typical of the period, or whether it affirms that it is in a form which is never found outside the same period. We have seen that in the katatonic element of dementia *præcox* senility has been treated as a direct bar to diagnosis of its presence. There is, I think, a special grievance about the whole title, in that the German use of it bars its appliance where it would have been so natural, descriptive, and helpful. I mean that it would admirably denote the quiet collapse of jerry-built brains under the strain of their own weight, or of the first contact with the responsibilities of adolescent life.

Fourthly.—Will it be to the general advantage to receive and adopt dementia *præcox* as part of our own nomenclature? If we adopt it, we must remove something to make place for it. This we cannot do until we know exactly what is included under the terms in dispute. Further, this disorder is a fragment of a conception which materially differs from our own conception of classification. Do we need to mend our scheme? If so, shall we use some of our own material, or shall we patch it with pieces of this other material? If we take over the whole of the German ideas of classification well and good, but we cannot take bits like this form and paranoia without causing hopeless confusion.

Finally.—Judgment, I suggest, should be that we cannot accord to dementia *præcox* the full rights of an entity that are claimed for it. But with a suitable name we could thankfully receive and register it as a type or occurring combination of morbid conditions. We cannot receive it as a finished picture, but we can welcome it and katatonia and paranoia and other similar elements as pigments, by means of which a true artist, such as Kraepelin, can portray stirring pictures from real life. When all is said and done, he has put all of us under deep obligation by his clinical teaching.

Dr. W. F. MENZIES.—I do not think it is possible to say much on this subject which has not already been many times better said by others. At the same time one's purely personal feelings may add a mite to the general experience. We are perhaps at times apt to lay undue stress upon book types, and lose sight of the average run of cases, by which in the long run the value of a system of classification must stand or fall. And if we analyse our procedure in the diagnosis of dementia *præcox* we shall probably find that a few cases seem to argue the existence of such a state. We have, for example, at Cheddleton at least one almost perfect example of each form except the hebephrenic, that is of the simple katatonic and paranoid types, cases which for class demonstration purposes cannot be beaten, and which show the physical as well as the mental characteristics. But one swallow does not make a summer, and I am sure all of us have experience of large numbers of cases which from the diagnostic point of view of neither here nor there, which far outnumber the book types, and which we find great difficulty in placing in any one category. This, as it seems to me, strikes a fatal blow at the entity of dementia *præcox*. In addition to this, although most of the alleged cases of dementia *præcox* are adolescents, yet I find one very typical case commencing at thirty-three. My own personal procedure in diagnosis is as follows:—I first eliminate those with well-marked stigmata of mental and physical degeneration, the medium-grade aments with a superadded attack of recent insanity. These are called adolescent insanity or congenitals according to the predominance of one or the other feature. Next I look for hereditary general paralytics, which are by no means uncommon. Next I find some apparently well-developed chil-

dren who develop acute mania at puberty or later on stupor at or about adolescence. About these I say, call them dementia præcox if you like, but I prefer to follow the trend of opinion in this country as enunciated by Clouston and others long ago, and so they are called adolescent insanity or adolescent stupor. Now many of these cases do not recover, and become ordinary secondary dementias, but some after recovery keep well and later relapse. Then and not until then are these relapsing cases admitted to the dementia præcox class, because we then know that, although they may have another or even a third remission which permits of the resumption of home life for a time, yet in the end, say, by forty, very few of the survivors but are in an asylum. Having eliminated from our young cases the above types we lastly find a good many cases where the stupor is not anergic but katatonic, or where the dementia, perhaps after an imperfect apparent recovery, becomes progressive. For such one acknowledges that the term dementia præcox is useful, for it stamps them as irrecoverable and as progressive, fixes in fact a type upon our mind whose general course we can predict with fair certainty. And there is no other term which does this, wherefore I think the term allowable even if illogical. Nor need we cavil at the age period, for the convalescents, if the most numerous, are not the only components of the class, and dementia is always premature except in old age. Again, there is no need to confuse these cases with secondary dementias sequent upon, say, the primary adult insanities, nor with the primary dementias following prolonged alcoholism or interstitial nephritis, to name only two of the many causes. As to pathology, we may accept Bolton's measurements of the outer fibre and pyramidal cell laminæ of the prefrontal cortex without accepting his theory of defective neuronuronic durability. Bruce's work, read in connection with Bolton's and Watson's, seems to maintain the oft-repeated dogma of the unity of insanity. I think the inference from the observations of Bruce, Rows, and others is that the two outer layers of the cortex go first, not because they are last developed, but because they are first exposed to diplococcal invasions from the pial lymph circulation. And in these cases of dementia præcox there seems to have been for a long time, perhaps for years, a moderate degree of coccal invasion, accounting if slight for the simple or hebephrenic or paranoid form, if more severe for the katatonic form. On the other hand, in cases of adolescent stupor there has been at the time of the attack an active invasion, which later on has ceased, and left the patient either recovered or non-progressively demented, according to the amount of pyramidal cell destruction it caused. So that from the pathological side also there is something to be said for the term dementia præcox, as signifying a class in which the dementia is progressive. As to why coccal invasions occur in some cases and not in others it would be going too far from the present point to speculate, but I suspect the ultimate explanation will be one of cranial geography, and not one of any impressed hereditary neuronuronic defect, in some such way as the formerly alleged hereditary tendency in tuberculosis has been accounted for. To sum up, our position is dictated by convenience, and is wholly illogical. We do not believe in the entity of dementia præcox, but the term is the best and least equivocal hitherto suggested to describe a certain class of case which is far from uncommon.

Dr. PERCY SMITH said that ever since the Committee sat which was charged with the classification of the forms of insanity for the purposes of the Tables of the Association, he had felt some doubt—partly from the criticisms of friends and others—as to whether they were right in omitting the term “dementia præcox” from the Tables. But the debate that day had convinced him more than ever that they were right in leaving out that term. They felt certain that, with the greatest possible respect to Kraepelin's work, with which of course he was familiar, the time was not ripe for adopting the term in this country. Before that Committee sat there was a Nomenclature Committee of the College of Physicians, and the question arose whether dementia præcox should be included in the terminology of mental diseases. And those who were on that Sub-committee of the College of Physicians decided against putting in the term dementia præcox. They did not feel that the time was ripe for adopting it. One term which they did adopt, was the term “developmental” as one of the sub-varieties of dementia. In that,

one was influenced largely by the writings of Dr. Clouston, and adopted the term out of compliment to that authority. He had always felt that Dr. Clouston's description of adolescent insanity, or developmental insanity, in the "Neuroses of Development," covered practically the whole of the ground which was now covered by Kraepelin. He had listened very intently during Dr. Stoddart's speech for a statement as to the symptoms of dementia præcox. He asked Dr. Stoddart whether there was any common symptom in all the group of what was called dementia præcox except dementia, which might not itself occur, or might not be persistent. And Dr. Stoddart said there was no symptom which was pathognomonic of dementia præcox. So they were in a difficulty. If there was no special symptom, what was dementia præcox? They recognised the clinical groups described by Kraepelin. If there was no pathognomonic symptom it was rather difficult to accept the term dementia præcox. He (Dr. Stoddart) said the one characteristic was a dissociation of receptive and executive sides of the mind; and someone suggested that the term dementia sejunctiva should be used. He would ask whether that was the only form of mental disease in which there was disassociation between the receptive and executive sides of the mind, because he could not grasp that that was so. He was very glad to hear Dr. Stoddart acknowledge that dementia præcox was a bad name. He (Dr. Smith) was always teaching his students that many alienists in this country did not like the term dementia præcox. They felt it to be a bad name, and he always referred students to Dr. Clouston's description of developmental insanity as being preferable, although one described all the varieties of dementia præcox as Kraepelin taught them, remarking that, on the whole, that it was adolescent insanity. They knew it in this country, but they did not like the term dementia præcox, and it was not yet persistently used. If it was a bad name, they were right in leaving it out of the classification recently compiled. Kraepelin himself acknowledged that his grouping was only provisional; he was an extremely open-minded man, who, as Dr. Clouston said, had changed his classification many times, and he might change his present one again. He had changed his views with regard to paranoia. He had taken out a large group of cases from paranoia and placed them, as dementia paranoides, in the dementia præcox group. He (Dr. Smith) made a few remarks on that in his Presidential Address in 1904. He had been very interested to hear Dr. Clouston's experience with Dr. MacFie Campbell, because he (Dr. Smith) quoted in his paper Dr. W. McDonald, who wrote a paper in the *American Journal of Insanity*, on "Paranoia," and he put in the sentence: "We not only accept Kraepelin's ideas; we bolt them whole;" and he did not think that in this country there was any desire to bolt things whole, but to carefully consider and digest them.

Dr. F. R. P. TAYLOR wrote as follows: I entirely agree with what Dr. Jones says in his paper and have never used the term "dementia præcox." To my mind the term "dementia" should signify mental enfeeblement. We have a large number of young patients admitted here, whom, I take it, by many would be said to be suffering from dementia præcox, but a large proportion of these recover and go out, and I certainly am unable in the early days to say who will recover and who will go on to permanent mental enfeeblement, and therefore I avoid entirely a term which to my mind definitely implies an unfavourable prognosis. The term "adolescent insanity" seems to me a much better one. I am also very pleased to see Dr. Urquhart entering a protest against the introduction of fresh terms for expressions that are well understood and sanctioned by long usage; to my mind the result is mischievous and tends to further complicate the study of a subject already sufficiently difficult.

Dr. BOLTON wrote that his views upon the subject were expressed fully in the *Journal of Mental Science*, July, 1907, and that he saw no reason to alter them.

Dr. JOHN TURNER: (1) Kraepelin's conception of dementia præcox has given a great impulse to the closer study of individual cases of insanity. If for this reason alone it would have justified in my opinion its existence. (2) Among those

who in the main are in accord with Kraepelin regarding dementia præcox, the connotation of the term has a fairly well defined value. The substitution of the term "adolescent insanity" is, in my opinion, unjustifiable. Many cases of adolescent insanity are not dementia præcox, and some cases of dementia præcox are not adolescent insanity. Further, the connotation of the term "adolescent insanity" is vague, and synonymous merely with insanity in a young person. It requires a specialist to make a diagnosis of dementia præcox, but any man in the street can label an insane young person a case of adolescent insanity. (3) Is dementia præcox a nosological entity? The evidence, in my opinion, is not sufficiently strong, either on ætiological, clinical, or pathological grounds, to warrant an answer in the affirmative. But if we are going to quarrel with the conception purely on this ground we should also ask ourselves of what value are all the other items of our classifications of insanity? I anticipate that at some future time the terms signifying that there are distinct mental diseases will all be swept away, and for mania, melancholia, manic-depressive insanity, paranoia and dementia præcox, etc., we shall be able to substitute terms representing the physical substrata of disordered mental actions, recognising that these latter are merely shifting phenomena associated with disordered bodily conditions. In the meanwhile the conception of dementia præcox has proved too useful in the separation of different clinical forms of insanity to be discarded at the present time with advantage.

Dr. MIDDLEMASS said it was scarcely necessary for him to say anything on the subject, because Dr. Devine had summarised almost exactly the few points which he, Dr. Middlemass, had intended to place before the meeting—he did not know whether it was telepathy. Still, he would say a word or two. A great deal of the criticism which had been heard in the discussion was directed to the terminology of the disease. And perhaps that was right. It was desirable to be as careful as possible about terminology, to see that it was scientifically precise. But even in this country, the term "dementia," although it was supposed to be limited and strict, was not actually so. If one looked at Dr. Bevan-Lewis' textbook on mental diseases one would see he described a form of mental disease under the term of "acute primary dementia," and in the clinical description of the cases given, he gave one which ultimately recovered. That showed that even in this country—because no one could question Bevan-Lewis' scientific attainments—the term dementia was not always applied to an irrecoverable condition. And he would emphasise the fact mentioned by Dr. Devine that in Germany the signification of the term was not quite equivalent to what it was held to be in this country. And Kraepelin, in his book, said he was not wedded to his term, but was willing to accept any other which might be suggested to him as being more satisfactory. He had been interested to listen to Dr. Stoddart's description of his cases in Bethlem Hospital that morning, because one of the chief difficulties experienced in connection with that subject was to grasp clearly the exact clinical picture which Kraepelin wished to present. He was well known to be a master of description, but anyone who endeavoured to picture to himself an actual patient by means of a written description would find it very difficult. If they were able to accompany Kraepelin round his wards, and see his cases, and hear his descriptions of them, they would find less difficulty in knowing the exact kind of case he wanted to give an idea of. To see the patients, as they did in Bethlem Hospital that morning, was the best way in which to grasp Kraepelin's meaning. He had read Kraepelin's book, especially the part dealing with dementia præcox, several times; and the more he studied it and compared the descriptions with one's cases, the more was he inclined to accept the views of Kraepelin. He feared that he was contradicting his own opinion of five years ago, because at that time he was very much against Kraepelin's views. He did not believe that authority was making a new grouping, but that the more Kraepelin was studied the more the student was likely to come round to his views.

Dr. YELLOWLEES said that he greatly admired Kraepelin's powers of acute observation and clear, succinct description, but he dissented entirely from his definition of dementia præcox. He had always believed that it meant a premature

decay of mind due to organic degeneration of brain cells, and that it was found in a family of degenerates where one was probably a sot, another a blockhead, and another almost a genius. The subject of it had too little brain energy for the work of life, and it failed prematurely and hopelessly, the man outliving his mind. All this appeared to be changing now for no good reason. To-day Dr. Johnston had said that adolescent insanity and dementia præcox were the same disease, ignoring the fact that the majority of adolescent cases recover, while dementia præcox never does. He also asserted that dementia præcox might occur after the age of seventy; ordinary people, not under the Kraepelin mode, called this not premature dementia but senile decay. Dr. Yellowlees was surprised at the demonstration of dementia præcox given to-day by Dr. Stoddart, as few of the cases seemed to him to have the history and characteristics of that disease. He did not at all mean to put his opinion before Dr. Stoddart's, but it was evident that they had totally different ideas as to what constituted dementia præcox. It was of course inevitable that when classifications of insanity were founded merely on symptoms, there must be indefiniteness and overlapping. This was due to our ignorance of the pathology of insanity, but it was a great abuse when terms with recognised meanings were made to include conditions quite different. This multiplication and confusion in nomenclature had been nothing less than a curse to psychiatry. Symptoms which were found in many varieties of insanity were declared to be characteristic of a special group to which their name was given. Dementia præcox had been extended so as to include things quite different from it, and it really looked as if general paralysis were the only morbid entity which could boast a distinctive and recognised name. He concluded by detailing a case of confusional and stuporose insanity, and asked if that also was to be called dementia præcox; if so, the woman had three attacks and had three times recovered.

Dr. BEDFORD PIERCE did not think there was much overlapping in meaning between adolescent insanity as described by Dr. Clouston, and dementia præcox as described by Kraepelin. One read in Clouston's descriptions that the recovery-rate of adolescent insanity was 60 *per cent.* to 70 *per cent.*, whilst the recovery-rate of dementia præcox was very low, possibly under 8 *per cent.* Many of Kraepelin's pupils doubted whether there was any real recovery. Also, adolescent insanity was markedly hereditary, and this factor was said to be extremely important, whereas in dementia præcox the hereditary factor was probably by no means so important. It is evident that under the name "adolescent insanity" were included many cases that could not be included under the name "dementia præcox," cases which do not tend towards dementia. From his own experience he would say that Kraepelin's attempt to describe and mark off a new form of mental disorder had been of the greatest value. If he were to criticise the conception as now presented, he would say that dementia præcox had grown to include too many forms of disorder. He regretted the paranoid form had been introduced. It was of little assistance to the alienist, and he wished Kraepelin or someone would revive the original definition of the disorder and omit the paranoid forms.

Dr. SEYMOUR TUKE said he did not think he could add very much to the discussion; but, speaking as an unscientific person, he would like to say a word or two. First, as to the kind of cases mentioned by Dr. Yellowlees. Twenty or thirty years ago one used to be dissatisfied with one or two things, and, on looking through the case books, several instances were found. One he came across last night entirely and absolutely bore out Dr. Yellowlees cases which he had just mentioned, and which were termed primary dementia. He referred to those cases which came on rather suddenly, which went on to stupor, in which the patient would sit still and say nothing, refusing food; and yet he would almost suddenly recover. One also saw those cases which, having lived up to a certain extent (some had been at the University and had been fairly useful in society), broke down, with a curious restlessness, followed by delusions, and then possibly hallucinations. Most of them had a strong hereditary tendency. He had always been inclined to regard them as more difficult to prognose than others, and the forecast generally had to be an unfavourable one. Of course, there were cases

which got better, but which were not again quite as they were before. There seemed nowadays to be an attempt to sum up all such cases in the term dementia præcox. Yet one could not be quite clear about the cases which were said to be recoverable and those which were said to be absolutely hopeless, because he did not think there had been a distinction drawn between them recently. If dementia præcox was to include all those cases—the early cases—he could not say he felt it was satisfactory, because it did not give a true insight into what was going on. One could meet the cases in very much the same position as far as their motor symptoms and some of their sensory symptoms went, and yet not be clear when one had more experience. He did not think that anybody, from reading about dementia præcox, could definitely say, in the early stages of the disease, what the result was going to be, or what might be expected later on. Yet what was wanted by the friends, above all else, was a prognosis. And if they were to say that no case of dementia præcox would recover, and that his troubles would end there in the asylum, they would not improve their reputation or anything else. Those diseases were separate entities, and, therefore, there should not be an attempt to combine them under one heading.

Dr. BOND.—It is not my wish to contribute at any length to this discussion: not from any lack of interest or failure to realise its importance—on the contrary, I regard the assent by any of us to the use of such a term as “dementia præcox” as, so to speak, the parting of the ways in psychiatric nomenclature—but because before venturing to criticise in the light of my own experience, I should like a more extended opportunity to carefully follow up cases. One of the most valuable lessons taught by Kraepelin’s methods is the advantage of an earnest endeavour to group our cases, not according to their clinical picture at any given time, but according to the impression formed by a study of the case spread over the whole life of the patient. An ideal opportunity for such a study ought to be afforded by the clinical records of an old asylum, which happens to provide the only accommodation for the insane of a considerable area where the ebb and flow of population is small. Several such could be cited, and the physicians of those asylums must have access to an accumulation of clinical material that would at this juncture well repay analysis. Much wordy warfare has been waged round the use of the words “dementia” and “præcox.” We have been accustomed to believe that “that which we call a rose by any other name would smell as sweet,” but there is no doubt that Kraepelin’s triadic entity has, under the name of dementia præcox, anything but a sweet savour in the nostrils of many British psychiatrists. That, I submit, is unfortunate, and inevitably tends to obscure the real issue. Moreover, I feel convinced that some of the adverse criticisms of his doctrine are the outcome of an inexact knowledge of his teaching, and that we are in danger of quoting as his, views and meanings that he never intended. I confess that only quite recently did I grasp the precise significance of the word “dementia,” as used in the German language. Apparently the English language has no exactly corresponding word. My colleague, Dr. Devine, has pointed this out in his remarks, and I will not labour the point further except to urge that we have no right to fall foul of the word as used by a German, on the ground that we, in this country, have, for the most part, attached a different significance to it. It would also appear to be a fact that even many of those on the Continent who accept the existence of an entity which they know, and to which they habitually refer, under the name “dementia præcox,” do so in a considerably restricted sense. In this connection I have just received an interesting and important letter from Dr. Heinrich Schüle, of Ilmenau, who, I may remind the meeting, is an Honorary Member of this Association.

Dr. Schüle writes that he should like to correct Dr. Urquhart’s statement⁽¹⁾ that Kraepelin adopted the term “dementia præcox” at the suggestion of Pick, and points out that the expression has been used in France by Morel (‘*Traité des maladies mentales*’) and in Germany by himself (‘*Klinisches Psychiatric*,’ 3rd edit., 1885, pp. 451-2). He mentions that an historical account of this subject may be found in a note by Dr. Bresler in the ‘*Psychiatrische, Neurologische Nochen-*

⁽¹⁾ The reference is given in Defendorf’s *Clinical Psychiatry*, 1902, p. 152. “Dementia præcox is the name first applied by A. Pick, *Prager med. Wochenschr.*, 1891.”

schrift,' 1906, No. 9. He then explains that in these quoted references the clinical term "dementia præcox" is used only in respect to such cases of insanity in which a powerful psychic breakdown, early and suddenly (more rarely after puberty) occurs, with the character of a dementia (Verblodung). He concludes by saying that such cases would correspond to the first sub-division of Kraepelin's classification.

The PRESIDENT said that if no other member of the Association wished to discuss the matter, he would ask Dr. Robert Jones to reply on the whole discussion.

Dr. JONES said he understood Dr. Stoddart would reply first.

The PRESIDENT.—Dr. Stoddart also.

Dr. BOWER said the paper was Dr. Jones's, and therefore he thought that gentleman had a right to the last word in the debate.

The PRESIDENT pointed out that Dr. Stoddart read a supplementary paper; he had spoken in the discussion and he desired to make a statement.

Dr. STODDART said he did not wish to make a speech by way of reply, but only to correct what appeared to be a wrong impression. That morning he had in the room some cases of confusional insanity, and he showed them to indicate in what respects they differed from dementia præcox. They were not cases of dementia præcox.

Dr. YELLOWLEES said he was very glad to have that explanation.

Dr. STODDART said one of the other points on which he wanted to speak was concerning prognosis, as dealt with by Dr. Seymour Tuke. In regard to recoverable cases, one could sometimes form a rough conclusion as to the prognosis. If the dementia præcox symptoms were mild and the patient was evidently very ill, there was then a possibility of so building up the patient's general health that the præcox symptoms disappeared. In those cases the prognosis was fairly good. But if the case was like that of the healthy-looking girl shown that morning with mild symptoms and some catalepsy, the patient being in perfect health, the prognosis was quite hopeless.

Dr. ROBERT JONES said that after what Dr. Yellowlees had said, and the apparent effect of his criticism being to bury for ever the vague term "Dementia præcox," which the French and Italians have also declined to accept, there appeared to be no reason for a further reply from him, but as he had opened the discussion it seemed more regular for him to rise and offer a few remarks. In the first place it seemed odd that with nearly thirty years experience of every form of insanity he should now be confronted with a request to adopt a new nomenclature for cases already well known to every member of the Association who knew anything at all about practical lunacy and which fitted in well with the labels already accepted. The Special Committee of the Association appointed to bring out a classification of insanity comprised the names of those who were best known in our special branch—Drs. Savage, John Macpherson, Conolly Norman, Percy Smith, Goodall, Mercier and others. This committee declined to adopt the terminology of "dementia præcox," and the general feeling of the Association at its Annual Meeting accepted the classification presented. As Dr. Clouston had already said, all psychiatrists in this country recognised with gratitude the brilliant work of Kraepelin in Germany, who, however, was not the first to use the term, and although his general classification had been accepted by English-speaking physicians in America, in this country his terminology found no acceptance. In the first place there was no pathology to dementia præcox, and without a pathological basis it was unwise and undesirable to raise up an entity in disease. There was also in many of these cases grouped into Kraepelin's special class a complete recovery, and if there was to be any meaning to words we in this country recognised dementia to mean a permanent mental failure, a permanent mental self-insufficiency, but what did Kraepelin state? He considered recovery to be of frequent occurrence, and even in the most unfavourable variety, the katatonic form with inco-ordinate motor and mental symptoms, recoveries were reported up to a proportion of 12 or 13 *per cent.* If the dementia is precocious, is it age-precocity? If so, then why include cases up to fifty-five and sixty years of age? He preferred still to call his cases those of primary dementia, or adolescent melancholia, or mania. The general practitioner with his practical knowledge of medicine refused to be consoled by dementia præcox, and why? Because the

great point with the friends and relatives of a patient was—"Is the case going to get well, and how long will the illness last"? Such being the upshot, it was not only inexpedient, but wrong, to label an illness from which convalescence may occur with the sign of irrecoverability. It would certainly militate against the patient's welfare and against the rays of hope kindled in his favour by his relatives and friends. I can't help feeling very strongly that our own language is rich enough and full enough without coining a fresh nomenclature, as is so frequently the case among mental specialists in Germany and America. In Kraepelin's own country there was a cry on the part of not a few neurologists and psychiatrists for a subdivision of the large and heterogeneous group labelled "*Dementia præcox*," and that the disease should be re-labelled according to whether factors outside or inside the disease process were uppermost. Anyone reading his description of the sub-groups would appreciate the difficulty there was in mutually excluding common symptoms; one description ran into another without any scientific accuracy, and he thought the general sense of the meeting agreed to bury this term, and he hoped it was not likely that it would be resurrected. At the same time such a discussion as the present helped them in their work; for they recognised each other's methods of investigation and learnt to respect views which they themselves could not adopt. Much credit was due to the Secretary for suggesting the discussion, and although a great deal of latitude had been allowed to writers and speakers, it was satisfactory from his standpoint that the feeling of the meeting supported the findings of the Committee, of which he had the distinction of being a member.

Clinical Notes and Cases.

Foreign Bodies in the Stomach and Liver of a Dement.

By A. D. THOMPSON, M.B., Assistant Medical Officer,
North Riding Asylum, York.

IN the North Riding Asylum on May 11th, 1908, I was called to the Male Infirmary to see a patient, and found him dying. The only evident reason for his death was that he had reached the culminating point of a gradual progressive exhaustion, the cause of which I had been at a loss to expiscate.

The patient was demented; sometime a marine engineer, he had been admitted in 1895, as a case of delusional insanity; he had many delusions regarding a "power" he possessed of generating electricity in his body, and he had visual hallucinations also, *e.g.*, he said he saw spirits floating about, etc. As early as the beginning of 1898 he worked in the engineer's shop and he kept in his fixedly deluded, satisfactorily healthy, condition till the middle of 1903, when he was last noted as working in the smithy.

In August, 1904, he had an ischio-rectal abscess, which was opened, evacuated, washed out, and packed; it healed well.

In January, 1905, his bodily strength was first noted to be failing. In April, 1906, he was written down as "in good health and doing some ward work," but from May 8th to 18th of the same year he was in the infirmary, as his temperature had risen; after a purge he gradually regained his normal; no reason was assigned for the rise of temperature.

Next year (1907) he had a similar attack and was in the sick ward from the 4th to the 13th November; it was again noted that after a purge his temperature fell and he went back to his own ward in nine days.

On April 25th, 1908, I noticed he was looking rather ill, and had him sent to the sick ward. His temperature was 101.6° F., and on the next day 102.6° F. In view of the previous beneficial effects of a purge in his case, he was given an ounce of castor oil. His bowels moved and his temperature fell to normal limits—that was on April 27th—and remained practically normal thereafter till his death. On May 4th he was allowed up and on May 7th he was sent back to his usual ward, but next day (May 8th) I noticed him looking worse again and had him put to bed in the infirmary. His temperature was not abnormal, and physical examination revealed nothing that might account for his gradual enfeeblement. He died suddenly on May 11th.

The points of interest in the *post mortem* centred about the liver, the gastro-intestinal system and the kidneys; the rest of the description will be omitted.

The necropsy was performed twenty-one hours after death, up to which time about a couple of quarts of dark-brown liquid had oozed from his mouth; similar liquid was found in the stomach; the colour was due, for the most part, to altered blood.

Liver.—On the surface of the left lobe was noticed the protruding end of a piece of wire, which was extracted and found to be about two inches long; almost parallel to this piece, and to the left, was embedded another piece of wire one inch long; there was no adhesion of the liver to the abdominal wall in the region of the two foreign bodies; the hepatic substance was friable and fattily degenerated. The *stomach* was distended and through the wall there were felt three solid bodies—a large one almost six inches long, a smaller one just over three inches long, and a third one a little shorter than the last mentioned; the end of the third protruded through the stomach wall. On opening the stomach the largest body was found to be of wood, $5\frac{1}{4}$ in. long and 131 grs. in weight; the other two of metal—the heavier $3\frac{1}{4}$ in. long, 76 grs. in weight, of solid iron; the lighter, 3 in. in length, weighing 11 grs., of iron wire. Besides these bodies the stomach contained some dark-brown bloody fluid and about a pint of slightly “organised” blood-clot. The inferior margin of the organ was adherent to the transverse colon by a mass of fibrous tissue here and there streaked with black, and in this mass was found another piece of wire, $1\frac{1}{2}$ in. long, weighing 6 grs., with bulbous extremity just projecting through the gastric mucosa. The wall of the stomach in the neighbourhood of the adhesion was greatly thickened, and the gastric mucous membrane generally was intensely congested. There was considerable thickening about the pylorus, but the orifice was patent; the adherent transverse colon had a practically undiminished calibre. The intestine throughout its length contained a black tarry semi-liquid mass—fæces and altered blood from the stomach. The mucous membrane of the gut presented no abnormality.

Kidneys were of a markedly green colour.

The patient's fæces were known to be dark coloured during his last

illness, but the cause was not then apparent ; the colour was probably due to two factors, *viz.*, altered blood passing down from the stomach and sulphide of iron formed from the gastric armoury.

That he did not complain of pain is not of course to be wondered at, as he was extremely demented, but the curious thing is that the contents of the stomach had not caused more acute symptoms, especially so in the case of the solid piece of iron sharply pointed at both ends and 76 grs. in weight. It seems likely that he swallowed the pieces of metal, at least, during the period he was employed at the smithy, where he ceased to work not later than the fall of the year 1903 ; at any rate, the fact that they were in parts deeply corroded points probably to their having been a long time in the stomach.

How the pieces of wire in the hepatic tissue and that in the gastro-colic adhesion reached these sites is matter for conjecture, but they certainly looked like the fragments of a pin with enlarged extremity.

I have to thank Dr. Eades, the medical superintendent of this asylum, for his courteous permission to give the foregoing account of a curious case.

Occasional Notes.

Boarding Out.

The discussion on the possibility of boarding out the insane in England has resulted in no definite action on the part of the Association. There appears to be a very general consensus of opinion that boarding out, although very desirable, is not to any extent practicable under the conditions that exist in the greater part of England.

The actual testing of this question will not apparently be undertaken by those concerned in the medical administration of asylums. Indeed, to ensure any success, the co-operation of the Lunacy Commission and that of the Poor Law Administrators is essential.

The former body is much too weak at present to add to its burdens so great an undertaking. The Poor Law authorities are, therefore, the only body who could move in the matter with any prospect of success. If they could be convinced that this procedure offered any possibility of economy something might be done. Unfortunately the capitation grant of 4s. per head per week for all insane persons in asylums stands in the way. Until this mischievous grant is re-distributed there is little

chance of Poor Law aid in promoting boarding out ; the rate-payers must be content to pay for the maintenance of the harmless insane in costly public institutions, and the benevolent must continue to regret that these unfortunates cannot obtain the advantages that have been shown to result from this system as carried out for so long a time, and to so great an extent in Scotland and elsewhere.

Superannuation and Old Age Pensions.

The superannuation of asylum officials is such an ancient subject and has been so frequently discussed in all its bearings that there would appear to be little scope for fresh aspects.

The Old Age Pensions Act, that comes into operation next year, has a very definite bearing on this matter as related to the superannuation of asylum attendants, etc., whose pensions do not largely exceed that of the Old Age Pensions Act, and who, by these pensions, would be debarred either altogether, or for the larger part, from coming under the provisions of that Act.

Those asylums which do not grant pensions, paying enhanced rates of wages, without prospect of superannuation, will become popular, since the attendant will not only have the increased pay, but will also in any case get a pension from the State. Probably most asylums will, in the interest of the community, consider it desirable to keep to the lower rate of pay, which the prospect of pension enables the employees to take, since the pension thus granted out of the county funds will in the end be a saving to the Old Age Pension Fund.

Certain asylums in recent years have made their attendants sign a declaration that they forego all claim to pensions, a procedure that is possibly illegal, but it may happen in the future that the employees, being assured of an old age pension, will everywhere demand an increased wage, the proffer of pension being no longer any great inducement.

The Commissioners in Lunacy in their forty-sixth and again in their sixty-first report dwell on fair wages, and the prospect of pension as being "the most influential inducements to really suitable persons, to enter asylum service and to remain in it as a permanent occupation." The main inducement, however,

appears to be destroyed by the Old Age Pensions, which will probably be found to militate, not only against economy in wages, but also against the permanence of service, which is of so great value in asylum administration.

The Lunacy Commission.

The hope of an increase in the *personnel* of the Commissioners in Lunacy is still deferred. With a Chancellor of the Exchequer wanting twenty to twenty-five millions of additional revenue such petty affairs as the addition of two or three thousand to expenditure will not receive much attention.

The writer of our review on the Commissioners' Blue Book suggests that the over-full treasuries of some of the registered hospitals might serve the purpose of a suitable hen-roost for this end, but even this is not probable, since it would require special legislation.

In the meantime the overwork of the existing Commission continues ; the serious needs of the insane remain unsatisfied and are continually increasing.

The Lunacy Commission has suffered serious losses by death in the past few years ; although this may not be directly ascribable to overwork it is certain that the large amount of sickness amongst its members has caused great stress to the survivors, and is calculated to reduce their ability to cope with their annually increasing work.

Prospects of Lunacy Legislation.

The possibility of lunacy legislation in the coming year is probably very much greater than for many years past. The great Bills which absorbed all the time of the House of Commons are defunct, and there is little encouragement in the present state of parties to introduce controversial measures ; as a consequence the road is open for bills of a non-political character.

A Lunacy Bill is reported to be in preparation, and if introduced early in the Session will have a good hope of

becoming law. The Parliamentary Committee of the Medico-Psychological Association, with its usual vigilance, may be trusted to be on the alert to anticipate this probable activity of legislation affecting the interests of the insane.

Part II.—Reviews.

The Sixty-second Report of the Commissioners in Lunacy for England and Wales, 1908.

The increase in the number of certified insane persons during 1907 was 2,096, the total on the 1st January, 1908, being 126,084. This increase was less by 315, than the annual average of the last decennium, and by 328 than the quinquennium.

Hence, although the rate of increase has somewhat diminished, the proportion of insane per 10,000 of the population has advanced to 1 in 280. This proportional increase is obviously due to accumulation, since the admissions per 10,000 of the population have fallen from 6·93 in 1902 to 6·26 in 1907. The first admissions have also fallen from 5·76 per 10,000 in 1902 to 5·18 in 1907.

This diminution in the rate of increase of insanity, although it has persisted for several years and corresponds to a similar diminution in Scotland, and to some extent in Ireland, cannot be accepted as yet as evidence of an actual decrease. The social and economic causes leading to fluctuations extending over several years are too complex to be briefly stated, but the present variation probably gives more reason for hope that the high-water mark of production of insanity has been reached than any of the fluctuations at previous periods.

The fact that if the ratio of first admissions obtaining in 1902 had continued, the number of first admissions would have been upwards of 1800 larger in 1907 is evidence at least of the striking character of this statistical wave.

The proportion of private admissions has undergone a more remarkable variation, having diminished slightly from ·70 per 10,000 in 1889 until it rose suddenly in 1901-2 to ·76, since when it has dropped to ·68. The sudden rise may have been due to social conditions, etc., following the Boer War, but probably has been mainly due to the classification of paupers whose maintenance was paid for as private, and the greater facilities for cheap treatment afforded by the private annexes of public asylums. Since 1899 the Report shows that the number of private patients in county and borough asylums has increased from 1,434 to 2,801, whilst the numbers for the same dates in registered hospitals were 3,707 and 3,738, in metropolitan licensed houses 1,582 and 1,577, and in provincial licensed houses 1,289 and 1,318, and, resident with relatives and others 415 and 505. The whole increase of private patients has been practically in connection with pauper asylums.

That the ratio of admissions of private patients to the population—in spite of the sources of increase alluded to above—has diminished slightly in the last ten years would indicate a considerable reduction in the occurrence of insanity in the well-to-do classes were it not probable that there has been a great increase in the number of such cases treated without certification, owing to the constantly growing desire of the friends to make arrangements, however expensive, to avoid this social drawback.

The recurrence of insanity is dwelt on in the report from the point of view of reassuring the public of the permanence of the recovery in a large proportion of cases. Pessimistic public opinion has assumed that all cases are certain to relapse, and such a reassurance is very desirable and necessary.

The report makes a very graceful recognition of the services of the After-care Association in the prevention of relapse, and expresses the opinion that an extension of its operations might lead to a still further decrease in the number of relapsed cases.

The "Causes of Death" table has been re-cast to facilitate comparison with the tables published by the Registrar-General—a very desirable and useful reform.

General paralysis of the insane would appear, from the statistics given, to be distinctly less frequent, both as a cause of death and of need for asylum treatment, the return per 10,000 of the population of the admissions from this disease having been 0·83 for males and 0·19 for females, from 1889 to 1893, whilst in 1899 to 1903 the similar figures were 0·70 and 0·14 respectively. This is supported by the fall in the number of deaths from this disease in asylums from 20·0 *per cent.* in 1895 to 15·7 in 1903 and 16·8 in 1906.

The Report alludes to the revised system of registration which it has adopted, and speaks warmly of the co-operation of the Medico-Psychological Association and of the medical staffs of the asylums.

The old table of the causes of insanity, it is announced, is published for the last time, and will be replaced by a new table more in accordance with modern views. The Report dwells on the difficulties attending on the ascertainment of the antecedent factors in the causation of insanity, but this is a reason for more strenuous effort in this direction. Nothing can be of greater importance to the nation, in relation to possible measures of prevention of insanity, than the clear statement of the actual antecedents of mental disorder; in regard to which the existing statistics of causation are not only deficient, but actually misleading. The Commission would do well to direct much effort in this direction when the long-talked-of addition to its *personnel* gives sufficient power to undertake additional work.

The registered hospitals again call for comment on "the discrepancy between the incomes of some of them and the amounts which they contribute to the maintenance of necessitous patients."

It is again reiterated that "the primary function of all of them should be to extend their comforts and benefits to as large a number as possible of suitable patients."

It is noticeable that the institutions which perform the largest amount of charitable work are those which do not receive wealthy patients. Thus

Bethlem (which limits its receipts from paying patients to two guineas per week) maintains 71 *per cent.* of its inmates gratuitously ; Bethel House receives 72 *per cent.* at less than cost, and St. Luke's receives 85 *per cent.* of its patients at one guinea or less per week. In fact the amount of charity performed would seem to be in an inverse ratio to the rates charged : the higher the rates the less the charity. It is desirable that some definite regulation should be arrived at in regard to the distribution of the profits of these Institutions. It has been alleged that some of them have become "charities for the wealthy classes," persons with incomes of several thousands a year availing themselves of the charity for themselves or relatives. In a case recently before the law courts the patient's income was upwards of £4,000, and this is by no means an isolated instance. These wealthy charity seekers raise the general rate of maintenance in the institutions that receive them to such an extent that the poorer patients are excluded, or, if admitted, have either to pay a high rate, and even when paying a rate that would ensure equally good maintenance in a less expensive place are credited as receiving charitable help, because they do not pay the inflated maintenance rate.

This evil result of extending charitable aid to the wealthy needs some check, but no direct recommendations to the governing bodies of these institutions can be found in the reports of the Commissioners' visits. The report refrains from naming the principal offenders, and these, being governed by committees with neither body to be kicked nor soul to be damned, are unmoved by the ignominy of allusions buried in a blue book. Probably a few inquiries in the House of Commons might arouse them to some sense of their iniquity, and the Lord Chancellor might find a suitable hen roost in the great profits. The plunder of the registered hospital hen roost should be devoted to the expenses of the Lunacy Commission.

The profits of the county annexes would also appear to be a suitable though smaller object for the predatory instincts of the Chancellor.

The most important departure in this report is the addition of a supplement giving an account of some of the clinical and pathological work undertaken by Asylum Medical Officers during 1907. This official recognition of the value of such work will be a great encouragement to the workers, and an efficient stimulus to additional effort. The record of work extends to twenty-five pages, and is a sufficient answer to those critics who have asserted that the scientific spirit is dead in English Asylums. There can be little doubt that the coming years will show a great increase in the volume of this supplement. The recognition of this scientific work is also a refutation of the charge, to which it has been too long exposed, that the Commission is interested only in the legal aspects of insanity.

This interest of the Commission in the medical aspects of insanity is further shown by the advocacy of the plan of strengthening asylum staffs by "internes," and of the greater use of Asylums as places of instruction for medical students.

The Report in very many ways shows a recognition of the importance of the duty of the Commission in regard to the treatment of insanity, as opposed to the mere legality of detention and avoidance of ill-treatment, which for so long a period were the all predominant

characteristics of these blue books. The great advance in this respect opens a new era in the value and interest of the Reports, will bring the Commission and the Asylums in much more sympathetic co-operation, and will greatly strengthen the influence of the Commissioners.

The Fiftieth Annual Report of the General Board of Commissioners in Lunacy for Scotland, 1908.

On January 1st, 1908, there were in Scotland 17,414 registered insane persons and 494 non-registered insane persons (in the Criminal Department, Perth Prison, and in the Training Schools for Imbecile Children), giving a total of 17,908.

Of this number 2,633 were maintained from private sources and 15,226 from parochial rates. These figures, as compared with the previous year, show a total increase of 293, due to an increase of private patients by 59, and of pauper patients by 234. The total increase occurred in the number in establishments for the insane. The number of patients in private dwellings remained unchanged. The average increase of pauper patients during the preceding five years was 204, so that the increase of 228 during the year 1907 has been above the average increase for that quinquenniad.

Of the 494 non-registered insane persons, 49 were maintained at the expense of the State in the department of Perth Prison for the criminal insane—a decrease of two as compared with the previous year. Four hundred and forty-five were in training schools for imbecile children—24 more than on January 1st, 1907. Of the 445 imbecile children, 199 were maintained from private sources—an increase of 16 as compared with the previous year.

Increase of insanity in proportion to population.—For the year 1907 there is a slight increase in the numbers of the insane compared with 1906. There is nothing in the figures of the year under review to discourage the hope expressed in the last report that the burden of pauper lunacy in proportion to population has reached, or is fast reaching, its limit, especially when due consideration is given to the number of insane admitted, and to their age distribution. The Commissioners repeat the reminder contained in the previous report that there are still known to be in the country a large number of persons of unsound mind not at present on the register, and that it might be possible by administrative changes to bring many of these under official cognisance, and so to increase the amount of registered lunacy without any change having occurred in the actual proportion of mental unsoundness in the community.

An interesting table, which shows the number of lunatics placed on the register during each year from 1874 to 1907, reveals the fact that the increased number of lunatics on the register is merely the effect of accumulations due to a decreased rate of removal from the register by discharge or death.

The maximum number of admissions, *viz.*, 3,660, was reached in 1902. That number has never since been attained, and was markedly less in the years 1905–6. An increase of 247 took place during the

past year over the year 1906, but the figures of the table show that the number of removals by discharge and death did not keep pace with the number admitted, so that the increased number on the register is to some extent due to mere accumulation. It has further to be borne in mind that the population of the country is increasing, and that a corresponding increase of admissions to the register must therefore, under normal conditions, be looked for.

Number of first admissions registered.—The table from which the statistics under this heading are dealt with cover a period of thirty-four years. In regard to the private patients, the proportion to population has fluctuated within somewhat narrow limits throughout the thirty-four years, and is for 1907 lower than it was in 1875. In the case of pauper patients there was a fairly steady rise in proportion to population until 1902, when it attained its maximum of 52·6. It has since fallen, the proportion for the last four years being respectively 50·5, 47·9, 45·1, and 48·3.

Admission to establishments during 1907.—The number of private patients admitted during the year was 608—72 more than in the preceding year and 39 more than the average for the quinquenniad 1900—1904. The number of pauper patients admitted was 3,010—154 more than the number during the preceding year, and two more than the average for the quinquenniad 1900—1904. Transfers are necessarily excluded from these calculations, which deals with persons only.

Voluntary patients admitted into asylums during 1907.—The number of voluntary patients admitted was 120. This is 33 above the average number admitted for the ten years 1898—1907. The Commissioners are of opinion that the admission of voluntary patients is a useful provision of the law which permits persons who desire to place themselves under care in an asylum to do so in a way which is not attended with troublesome or disagreeable formalities. Simple, however, as the process at present is, a certain amount of time must necessarily elapse before application can be lodged and sanction issued. The delay involved is short, but it has on more than one occasion had serious consequence, and they are therefore in favour of a change in the law which would permit of a person being received into and kept in an asylum for three days on his own written application to the superintendent, provided the sanction of the Board be at once applied for in the usual way on admission, and that no voluntary boarder be retained for any longer period than three days without such sanction.

Discharges of the recovered.—The recovery-rate for the year was 38·2 *per cent.* in private patients and 40 *per cent.* in pauper. With regard to private cases it is 3 *per cent.* less than the previous year, and in the case of pauper patients 6 *per cent.* greater. The average recovery-rate shows very slight variations since the year 1880, in spite of the increased knowledge regarding the insanities and the advanced care of the insane. The Commissioners point out that in recent years the recovery-rate has probably been affected by the increased use of observation wards connected with the parochial hospitals of several large parishes, which receive persons suffering from passing attacks of mental disorder, of whom some, in the absence of such wards, would have been removed to asylums and would have been discharged recovered shortly after admis-

sion. Further, the slight lowering of the recovery-rate is probably to be mainly ascribed to the accumulation of chronic patients and to the fact that the development of nursing and the improved means of hospital care in asylums have led to their being more freely used for the reception of patients whose age and mental physical condition are such as to preclude hope of recovery. Persons in moribund states, or suffering from incurable physical diseases, complicated with mental unsoundness or decay, are now sent to asylum hospitals instead of being sent to ordinary infirmaries or of being kept at home until death takes place. The number of persons admitted at ages so advanced as to render recovery almost impossible has, as subsequently shown in the report, largely increased. The following statement shows the recovery-rate from all establishments during the past twenty-seven years among private and pauper patients respectively.

Average of 5 years.	Recoveries <i>per cent.</i> of admissions, excluding transfers.	
	Private.	Pauper.
1880-84	41·0	47·6
1885-89	39·0	45·1
1890-94	39·3	44·1
1895-99	43·0	44·1
1900-04	44·3	42·9
Year 1905	44·8	41·6
„ 1906	41·2	39·4
„ 1907	38·2	40·0

Discharges — not recovered.—The number of private patients discharged not recovered, excluding transfers, during 1907, was 135, which is nineteen more than the previous year and seven above the average of the five years 1900-1904. The number of pauper patients discharged unrecovered was 376, or seventy-five below the number so discharged in the preceding year, and thirty-seven below the average for the five years 1900-1904. Two hundred and eighty-seven pauper patients were discharged by minute of parish council and forty-seven on expiry of liberation on probation. Twenty-three pauper patients were removed by warrant of sheriff and sent to England, Ireland, or other countries.

Deaths in establishments.—The death-rate during 1907 was 9·6. There has been a gradual increase in the death-rate from the years 1896-1899. The tendency to an increased death-rate, in spite of improved sanitary arrangements, of lessened overcrowding, and of more efficient means of treating special diseases, such as pulmonary consumption, is, as the Commissioners point out, what might be looked

for in view of the large and increasing number of senile cases that are being sent into asylums.

Removals from establishments on statutory probation.—The total number of patients thus removed from establishments was 167. Patients liberated on trial for periods not exceeding twenty-eight days are not included in this number. These trials can be made without the sanction of the Board, and they are frequently made use of by medical superintendents instead of the system of probation. The Commissioners, from their experience, are of opinion that the more frequent use of removal on probation in some establishments would probably lead to a larger number of permanent discharges than takes place at present.

Insane persons in private dwellings.—On January 1st, 1907, there were 2,780 pauper patients living in private dwellings with the sanction of the Board of Commissioners. This is a slight increase as compared with the previous year. One thousand eight hundred and nine of these patients were boarded with strangers and represent the number to whom alone the term "boarded out" is practically applicable.

Dr. John Macpherson, one of the Commissioners, in his report on the visitation of boarded-out patients, writes: "While some of them were as comfortably situated and as well cared for as any in Scotland, a few fell below the average standard of the country. In no single instance, however, did the welfare or comfort of the patients appear inferior to that of their guardians. Other reports on the subject, and of much interest, are given by Drs. Sutherland and Charles Macpherson. The former calls attention to figures relating to certified lunatics in certain parishes of the Western Isles, and to the great and unaccountable difference in the number of insane people there and on the neighbouring mainland, shown between parishes which adjoin each other, and which in all respects are subjected to like local conditions. "So far as Highland parishes are concerned," writes Dr. Sutherland, "all the main factors of life contributing to, and perpetuating insanity, save heredity, may be disregarded." He is of opinion that poverty is not a factor in the causation of insanity of any moment in the Highlands and Islands. The food in common use may be less varied and not so costly as it is elsewhere, but it is both abundant and nutritious, and the physique of the population as a whole bears this out. He suggests that excessive daily infusions, or rather, decoctions of tea may have an unsettling effect on subjects mentally unstable from birth, at adolescence, or at the climacteric. With all due deference to Dr. Sutherland's opinion, and writing as one with a knowledge of some of the conditions in the Highlands and Islands, the nature of the alcoholic liquors supplied is worthy of attention. One sample of whiskey the writer tried with a lighted match, and it failed to burn. Again, there is a complete absence in many of the homes of ordinary hygienic conditions, fresh air being at a minimum. Dr. Sutherland makes reference to the most important factor, which has often been referred to in the previous reports of the Commissioners, namely, migration and emigration of the able-bodied of both sexes to the large centres of industry, which leaves mostly the weakest specimens behind, with tainted histories, to intermarry. Dr. Charles Macpherson, referring to the conditions of boarded-

out patients, writes : "In some cases, and especially in houses licensed for three or four patients, there was reason to suspect that the patients did not enjoy the full family life which is regarded as essential if the best results are to be obtained. The guardians in such cases were warned that unless it was made clear in future that the patients had full liberty in the house, and were treated exactly as the ordinary members of the family, the result would probably be the removal of the patients entirely, or of such a number of them as would remove the excuse that there was insufficient room at the family table for them. Dr. Macpherson narrates an interesting case of a man removed from an asylum against the wish of the asylum superintendent. He was boarded in a small farmhouse in his native parish, and supplied with the necessary tools of his trade, which was that of a shoemaker. This man was found steadily at work repairing boots, cheerful, and pleasantly talkative, though slightly childish. He bought supplies of leather from a wholesale merchant, and regularly met his liabilities. The Commissioners are to be congratulated on the efficiency of a system which takes cognisance under such favourable conditions of so many cases of chronic and harmless insanity.

Accommodation for the poorer class of private patients.—The Board of Commissioners makes reference to the want of accommodation for the poorer class of private patients. This has already been dealt with in the thirty-ninth annual report. The Commissioners are of opinion that permissive power should be given by statute to District Lunacy Boards to provide accommodation for private patients under the conditions which they indicated as desirable, and they have reason to believe that legislation in this direction would tend to relieve the rates, and would be approved of by District Lunacy Boards.

The number of private patients admitted to district asylums has been steadily increasing. On January 1st, 1895, it was 143; on January 1st, 1908, it was 302.

Ages of the insane.—An interesting part of the Report is that which deals with the ages of the insane. Throughout the past ten years the proportion of insane persons to the general population between the ages of 20 and 60 has been no greater than in the ten years preceding, so far as that number can be gauged by the number resident in establishments. As regards the later period of life, however, the results are very different. Between 1887 and 1897 the section of the insane of 60 years and over showed an increase of 25 *per cent.* In the following ten years a further increase is shown in this section amounting to 30.6 *per cent.* During the past twenty years the proportion of the insane 60 years and over to every 100,000 of the general population at the same age has risen from 519 to 848—an increase of 61.2 *per cent.* In the year 1887 the largest proportion of the insane in establishments to population occurred in the period of life from 30 to 60 years. In the year 1897 the largest proportion appeared in the ages of 60 and over. In 1907 the preponderance of the number who have attained late life is much more marked. It will be observed that in 1887 the figures relating to middle life exceed those relating to late life by 10; that in 1897, on the contrary, the figures relating to late life exceed those relating to middle life by 11; and that in 1907 the excess of late life over the middle life figures had risen to 207.

There is an absolute proof that patients of 60 years and over have during the past twenty years been constituting a rapidly increasing proportion of the insane resident in establishments. In order to prevent misconceptions to which the proportions and percentages above stated are apt to give rise, it is necessary to bear in mind that they in no way disclose the relative numbers actually resident at each age period. The actual numbers at the late life period are even now only about one-fifth of the total number resident, of whom much the largest number belongs to the period of middle life.

The question of age incidence, especially with regard to the admissions, is also noteworthy in respect of private patients. The gradual advance of the age at which private patients are being admitted may be otherwise shown by the percentages which those admitted at ages exceeding 50 years bear, at the three decennial points taken, to the total admissions. This percentage will be found to be in the earliest two years 28·3, in the second two years 32·7, and in the latest two years 38·5.

The argument that the opening in recent years of wards in connection with a few of the larger poorhouses in Scotland for the observation and treatment of incipient cases of mental disorder may have had an influence in causing the falling-off in the proportion to population of those admitted to asylums in the earlier periods of life might be suggested. The Commissioners, however, point out that the wards are, in most cases, not large, and the number of patients passing through them is comparatively small; that they are not confined to the treatment of persons in youth and middle age; and that it cannot by any means be assumed that all the patients placed in them would necessarily, had such wards not existed, have been placed in asylums. The most important argument against this statement lies in the fact that the changes which have been pointed out as characterising the returns for the years 1906-7 are equally marked in the figures relating to private patients alone, which certainly cannot have been in any way influenced through the wards referred to.

Expenditure for the maintenance of pauper patients.—The average total cost per patient in all district asylums for the year 1906-7 was £45 10s. 4d. a decrease of 5s. 8d. compared with the preceding year. There was a decrease in the annual assessment per patient to provide land and buildings of 11s. as compared with the previous year. The net annual cost per patient of food, clothing, management, etc., has increased to the extent of 5s. 4d. as compared with the year 1906. The increased expenditure for the maintenance of patients is wholly due, as most Asylum Reports show, to the unusual prices that have been paid for almost all food stuffs, fuel, etc., during the year under review.

It would serve a very useful purpose, from the point of view of the ratepayer, if a table could be introduced in the report of the Commissioners giving the net cost per patient to each parish. This could only be arrived at by averaging the cost of patients under private care and the cost of patients in asylums. Boarded-out patients cost a good deal less than patients in asylums, and comparisons are apt to be instituted between these two classes of cases—comparisons which sub-

serve no useful purpose, for all that concerns the ratepayer, apart from the humane treatment of the registered lunatic, is the actual cost of each lunatic to the parish. A table such as suggested would be of advantage in dispelling a prejudice which exists in some quarters against boarding-out.

Pathological laboratory.—An interesting part of the report is that which deals with the Pathological Laboratory of the Scottish Conjoint Asylums. The Board of Commissioners ensures the favourable report of the Medical Commissioners upon the amount and nature of the work that is being done in the laboratory. The Commissioners point out that the laboratory is supported by the voluntary contributions of most of the Royal and District Asylums in Scotland, and regret that some asylums have withdrawn from the scheme. They would prefer to see work of this importance placed upon a more secure financial basis than the voluntary payment of annual sums, which are liable to be withdrawn by, it may be, a chance vote in elected bodies varying from time to time in their constitution. Scientific research of this kind, they point out, is necessarily laborious, and moves slowly step by step, and for that reason, among others, it is of the first importance that it should be uninterrupted and as liberally endowed as possible.

A study of the annual reports issued by the Board of Commissioners in Lunacy is always interesting. No single report has been issued that has not contained some illuminating and informing matter which amply repays the careful student, and the present report is not an exception to this rule.

Fifty-seventh Report of the Inspectors of Lunatics in Ireland, for the Year ending December 31st, 1907.

The total number of insane in Ireland on January 1st, 1908, according to the Inspectors' report, was 23,718, of whom 19,511 were in district asylums, and 3,053 in workhouses, the increase being only 164 over that of the previous year, and the lowest on record within the last twenty-one years, except in the year 1893, when it was 152.

A perusal of the Inspectors' reports for the past four years ought to have one beneficial result—it should tend to allay the fears of many who are apt to receive without questioning the conclusions of alarmist writers as regards the increase of insanity in Ireland. In 1903 the annual increase in the total number of insane reached its highest figure, 656; during the past four years which have since elapsed the respective increments were 202, 369, 189, and in 1907, 164. This is a big drop in the rate of increase. The average rate of increase for the last four years was 231, or not one half of that of the previous four years, which was 483, so that there has been a reduction of over 50 *per cent.* during the later period.

With respect to the number of insane in district asylums, there has also been a notable decrease in the rate of increase, amounting to about 35 *per cent.* for the same period.

Lastly, as regards first admissions, the crucial test of the increase of insanity, the statistics show an absolute decrease for each of the past

four years, the numbers having fallen steadily from 3,125 in 1903 to 2,745 in 1907—a fall of 11·2 *per cent.*

We may here call attention to the great advantage of the many statistical tables covering a series of years now embodied in the Inspectors' reports. This enables one at a glance to gauge the advance, or otherwise, of insanity in this country without the necessity, as was for long the case, of extracting the figures piecemeal from a large number of individual blue books for a succession of years—always a tiresome and laborious process, a needless one too, for once a beginning has been made for such tables, it only requires the addition of each year's figures to a list already in existence to complete the series, and this can hardly involve more than an insignificant amount of trouble. The extra columns in the table on page xv, giving the proportion per 100,000 of population of first admissions and total admissions, are a welcome and valuable statistical addition. These, no doubt, necessitated a considerable amount of trouble and some calculations in the first instance, as the series starts from the year 1880, but, now that the tables are completed up to date, they will serve as a permanent record, which will only require the addition of the figures of a single year for each annual report—a comparatively trivial task. We have frequently in these columns urged the desirability of such a principle being adopted in the Irish Lunacy Reports; our thanks are, therefore, due to the Inspectors and the Lunacy Office for the boon accorded, and these we offer frankly and unreservedly.

If we can rely on a continuance of these conditions we might almost feel justified in concluding that the country has reached its high-water mark as regards the increase of insanity, and that we have at last turned the corner. If we take the average proportion of total and first admissions per 100,000 of population in each of the four-year periods commencing 1900 and 1904 we find that in the case of total admissions it has fallen from 84·5 in the earlier period to 84 in the later one, and in the case of first admissions from 67 to 66. Now, a period of eight years tells for something even in the statistics of insanity, and the figures before us demonstrate the fact that the amount of occurring insanity in Ireland for eight years past has been practically stationary, showing, in fact, a slight but decided decline. No doubt the numbers of insane in asylums will continue to increase from mere accumulation, possibly for some years to come, but if the reduction in the number of admissions is maintained, and, as is not improbable, the death-rate advances owing to the increased amount of senility in our asylum population, there may, before very long, be a cessation even of the process of accumulation, and at last a limit reached to further expenditure for providing increased accommodation. It may be wise not to halloo till we are out of the wood, but there are at least some grounds for congratulation on the fact that daylight is at last discernible through the gloom, up till now persistent.

The census returns showing the distribution of insane (exclusive of idiots) have an important bearing on this question. The following table, based on the census returns, is not without interest; round numbers are given for simplicity.

Percentage Distribution of Insane.

	In asylums.	In work-houses.	In prisons.	At large.
1851	64	10	5	21
1861	65	8	4	23
1871	73	13	—	14
1881	77	13	—	10
1891	75	19	—	6
1901	84	13	—	3

In the last census year some 600 lunatics were at large—a reduction of about 300 from the previous census, and representing a proportion of only 3 *per cent.* of the total number of insane. This will probably be still further reduced by the termination of another decade, when a comparatively insignificant number of uncertified insane at large will remain. And as it is from this class that a considerable number of admissions to asylums have for very many years been drawn, with a corresponding addition to the aggregate of patients under care, and as this source of increase is gradually dwindling to vanishing point, and after some years may be completely dried up, one cause, for long an important factor in the increase of insanity, will cease to be operative, and this alone should tend to put a limit to that increase, if it does not actually bring about a reduction in numbers. Possibly by that time some special provision will have been made for the custody of idiots, of whom over 3,000 were at large according to the last census return, with over 1,000 maintained in workhouses.

The number of transfers from workhouses to asylums has been curiously constant for a number of years. For the past eight years, for instance, these amounted in 6 to practically 20 *per cent.* of the total admissions, in 1902 to 22·2 *per cent.*, and in 1904 to 25·8 *per cent.*, the two highest ratios since 1880. The number of lunatics, uncertified of course, in workhouses has fallen from 2,178 in 1901 to 1,771 in 1907—a drop of 18·6 *per cent.*, while the idiots have decreased from 1,691 to 1,385—a fall of 18 *per cent.* (These figures are taken from the Inspectors' report, and do not correspond with the census returns, according to which in 1901 there were in workhouses 2,651 lunatics and 1,181 idiots, the discrepancy being evidently due to a difference of classification with respect to some 500 patients by the census authorities and the Lunacy Office. If the total number be taken there is only a slight difference (37) accounted for by the different dates on which the numbers were computed.) Keeping to the Inspectors' figures, there has been a reduction in the total number of lunatics and idiots in workhouses during the last six years from 3,869 to 3,156—a fall of 18·4 *per cent.* The insane population of workhouses, therefore, is decidedly on the decrease.

The recovery-rate was 38·6, or 1·6 *per cent.* higher than that of the previous year. It may be said to be practically stationary, as shown in Table VIII, where the rates for the last three quinquennia are given as 38·4, 36·4, and 37·1 respectively. If the percentage recoveries on the daily average be taken the record is more unfavourable, as the average has fallen from 9·5 in the first quinquennium to 7·4 in the last—a fall of 23 *per cent.* This constancy of recovery-rate according to one method of

computation, positive and considerable fall according to another, is a matter on which we have commented in previous reviews. It seems strange that, notwithstanding all the advance in psychological and psychopathic science during the past thirty or forty years, notwithstanding the great change for the better which has been effected in the general treatment of the insane, the discontinuance of methods of restraint, the far greater amount of liberty they enjoy now than formerly, the improvement in their dietary and *régime* in every respect, the comforts, enjoyments, even what to some may appear as positive luxuries, now provided for them, in spite of all this there is the disheartening fact continually confronting us—there is no improvement in the cure of insanity. It shows what little effect *as regards cure* environment has, and seems to justify the conviction that recovery depends almost wholly on the mental constitution of patients quite irrespective of their surroundings. Some patients who break down in mind from strain of some kind have sufficient original mental stability to cause a rebound to normal when the effects of the exciting cause have had time to pass away, and they recover, and would probably recover no matter where they were placed. Others, less favourably endowed, appear to have little or no reserve or capital of mental energy, what they have is easily exhausted, and only after a protracted interval, possibly never, do they regain the—for them—normal mental condition. These either do not recover at all, or at best recovery is incomplete and only after a long period of residence in an asylum. They would probably do neither better nor worse no matter where they were located, in a favourable environment or otherwise. The arrangements in English asylums are on a distinctly higher scale of comfort than in Ireland, but the recovery-rate in county and borough asylums is not one whit better, is in fact absolutely identical, the average for the past ten years being 36·93. And in private asylums in England and Scotland, many of which are provided with all the comforts of a first-class hotel, and where hardly any measures are omitted which are calculated to bring about a favourable result, there is very little difference in the recovery-rate from that of pauper asylums. One possible explanation of this, in some respects, discouraging fact, is that during the past quarter of a century a larger proportion of senile and other incurable cases have been sent to asylums than formerly, and this would have the effect of reducing the rate of recoveries to admissions, which, were this increment of incurables absent, would present a higher figure. Be that as it may, the failure of the most enlightened curative measures to effect apparently any progress, as far as cure is concerned, cannot but give rise to some disquieting reflections.

The death-rate also, as shown by Table VIII, scarcely fluctuates at all, the average percentages of deaths on daily average for the same three quinquennia being 7·8, 7·5, and 7·7 respectively. The death-rate amongst the general population of Ireland in 1907 was 1·77 *per cent.*, so that asylum mortality is just four times that of the general population. The deaths from phthisis represent a ratio of 26·9 *per cent.* of the total mortality. The ratio for the population at large in Ireland is over 15 *per cent.*, but this includes children of all ages, of whom there are practically none in asylums. If deaths under fifteen years of age are excluded and

only those of patients between the ages of fifteen and forty-five be taken, the proportion in the case of the general population is as high as 43·8 *per cent.*, so that in this respect asylums have a better record than the general mortality returns. But as regards the amount of phthisis mortality in proportion to population the ratio in asylums far exceeds that of the general population. The ratio of phthisical mortality in the population at large is 3·2 per 1,000 living, in asylums it is 20·7, or about six and a half times as great. In English county and borough asylums the phthisical mortality shows a ratio of 15·3 per 1,000 inmates, and of 15·2 *per cent.* of the mortality from all causes. But as the death-rate from phthisis amongst the general population of Ireland is about double that of England the wide difference in asylums is only what we might expect.

In connection with this subject it would be a distinct advantage if, in the table given on page xvii of the Inspectors' report, an additional column were inserted giving the ratio of deaths from this disease to deaths from all causes in individual asylums, as is done in Table XV of Appendix B in the English blue book; and similarly in the table on page xx, giving the results for all asylums for a series of years, if columns were added stating the mortality from phthisis per 1,000 inmates, and the proportion of deaths from this disease to deaths from all causes, a correct estimate of its relative increase or decrease could be easily and instantaneously discovered. Moreover, if Table XVI were so amended as to record the cause of death *at different age periods* so as to make an asylum mortality from any disease comparable with that of the population at large (as is done by the English Commissioners in their Table XIV, Appendix A), it would be of very great value, whereas, as we have previously pointed out, the column giving the average age at death is practically useless. If the Lunacy Office could see its way to furnish these tables in the form above described their value would be greatly enhanced, and we should feel our obligations to the Office still further increased.

As regards the causes of insanity the Inspectors make some apposite remarks as to the unreliability of many of the alleged causes as an aid to any scientific conclusion. The old difficulty of distinguishing between a cause and a symptom of insanity is touched upon, and the concluding paragraph sums up what most of those who have had any lengthened experience in insanity will agree with:

"It is now recognised that an unstable nervous system is in most cases the predisposing cause of insanity, and that this impaired state of the nervous system is generally the offspring of hereditary taint. On such a primarily unstable nervous system the various disorders to which the human organisation is prone—innocuous, perhaps, in health—may act as toxic agents, and thus serve as the exciting cause of an outbreak of insanity."

Is not this about the upshot of all we know on the subject of the causation of insanity?

The total expenditure on district asylums was £539,838, and the net expenditure on maintenance (excluding loan repayments) was £443,420, or some £2,400 over that in the previous year. It is to be noted that while the average net cost of maintenance per patient in

District Asylums decreased by 12s. 9d., in Youghal Asylum it rose by £2 3s. 11d., which looks as if the administration in that rather anomalous institution were inclined to be a little more liberal in their treatment of the inmates. The Inspectors comment on the great improvement in the physical appearance and mental condition of the patients since being transferred there from workhouses.

As to these latter institutions, improvements in the arrangements of some of them for their insane inmates are noted ; but the sooner these institutions are emptied of all feeble-minded patients the better. The workhouse lunatic is, or should be, regarded as an anachronism in this enlightened age ; such a blot on civilisation should be wiped out, relegated to the limbo of a buried and unsavoury past.

The comparatively early demise of Doctor Conolly Norman is recorded by the Inspectors with great regret, who speak in appreciative terms of his distinguished career. As a touching tribute to the memory and worth of our late friend and colleague in an obituary notice from an able hand appeared in the April number of the *Journal*, we will only remark here that while the Association at large has had reason to deplore the removal from its midst of one of its most eminent members, the Irish division in particular, of which he was, it may be truthfully said, for many years the mainstay and chief moving spirit, has suffered an irreparable loss. His interest in its work and prosperity was unflagging—he rarely missed a meeting even when held in some distant part of the provinces—his contributions were numerous, for, however busy he was, he was always ready to fill a gap if the secretary's programme was short of material. Combining in his many-sided character the qualities of an able administrator, clinician, psychopathic expert, teacher, writer, conversationalist, genial host and friend, his was a unique personality not to be easily forgotten, and which it will hardly be within the bounds of possibility to replace :

“ He was a man, take him for all in all,
We shall not look upon his like again.”

O, si sic omnes !

There is nothing calling for special comment in the reports on private asylums. The number of admissions in 1907 was the highest on record, and is remarkable so far in that while the male admissions decreased by 11, the female increased by 30. The probable cause of the increase of patients in private asylums in Ireland in latter years was touched on in last year's review, and there is nothing further to add to the remarks then made.

Heredity, Variation and Genius, with Essay on Shakespeare and Address on Medicine. By HENRY MAUDSLEY, M.D. London: Bale, Sons & Danielsson, Ltd. 8vo, 1908. Price 5s. net.

We gladly welcome yet another book from Dr. Maudsley. It is characteristic in clear reasoning and pellucid English which never fail. There has been so much of theoretical imaginings regarding the operations of embryology, first and last, so much of suggestions which have been only too readily assumed as facts by those who would fain be learned in the latest findings of science, that this searching examina-

tion of the position by an experienced physician, competent to think out the propositions of the day and masterful in presentation of the results of his conclusions, cannot fail to clear the air and induce a clarity of opinion which will be of service to Dr. Maudsley's readers. That his readers will be many and his book popular in the best sense is a consideration which restrains us from the temptation to convey the characteristic *obiter dicta* scattered on page after page to our columns for the immediate gratification of those who glance at these reviews—*e.g.*, "Morality owns no immaculate conception; its experimental foundations are laid concretely on earth, and can be laid open in detail by exposition of the positive stages of human progress." We prefer to give a brief account of the general tendency of these disquisitions, so that Dr. Maudsley's present position may be generally indicated—a mere note in this Journal which may suffice to afford a permanent reference to the book itself.

What, then, does Dr. Maudsley mean in addressing men of science on heredity? We gather that he does not accept all of Darwin or Weissmann or Mendel. "Happy is he who, looking back on a sound ancestry, can rest in quiet confidence of a good descent," is the opening note, and the study concludes with reference to the authority of the Psalmist on the wise conduct of life, which prevents a man from falling, and leaves an organic inheritance to his children's children by his own well-doings.

It is evident to Dr. Maudsley that the whence and whither of things cannot be ascertained by any rational method of inquiry; but that the mighty stream of organic plasm is intent to make new channels on the least occasion, and only seldom succeeds. The good quality of variation finds good in bad surroundings and profits by it, while the bad quality chooses bad in good surroundings and feeds its growth thereby. When the variation amounts to genius he regards the individual as having burst the formidable fetters of custom—always so potent to keep men what they are and what they are likely to be. These sudden sports are not the product of a long course of natural selection, but the origin of species is rather to be regarded as a specific mutation started on its independent career before natural selection comes into action, than in accordance with the original suggestion of Darwin, which no longer holds its commanding position. Variations are not always the new things they seem; they are sometimes returns to ancestral characters, bodily as well as mental, yet the law of adaptive response to the environment rules more or less evidently. The real question is whether ancestral practice ever produces the smallest imaginable modification of the germ in the acquired direction, and Dr. Maudsley concludes that there is in the germ-plasm, with its many possible combinations of millions of constituent atoms and their memories of past structural dispositions, conceivable room for combinations determined by intrinsic affinities or external impulses. Touching the theory of the immortality of the germ-plasm, he finds it used to buttress that of the non-inheritance of acquired characters; these cannot be inherited, because it would be contrary to the sacred truth that the germ-plasm lives secluded in the body, and contrariwise the germ-plasm cannot be affected by the changes and chances of mortal life, because that would be

contrary to the truth that acquired characters are not transmissible. All this in spite of the fact that neither theory yet rests on a solid basis of proof, that it is assumed that the stream of life-plasm is neither polluted nor purified in its passage, that it means a rigid exclusion of outside influence, but on the contrary an inexhaustible fund of variation possibilities. It is more natural to regard the forming germ as susceptible to its modified bodily environment, exhibiting the effects in variations which, informed by the parental constitution, witness to parental acquisitions of structure. The tailless cat is not to the purpose, for it has suffered a deprivation rather than acquired a character.

The terrestrial mortal must imbibe the wholesome material spirit of the earth to sustain the virile strength of the race. Dr. Maudsley would make matter spiritual in the body and bring down the higher from its metaphysical height and exalt the physics of the lower, for man is a product and part of nature, and lives in, for, and by it.

The Mendelian theory has clarified our notions of heredity. Certainly the ripe fruits of maturity will be invaluable if the budding promise is fulfilled.

Before yielding consent to the doctrine that the person who consistently develops or debases his nature by the practice of virtue or vice does not affect the constitutional inclination of his offspring, one must consider all the pertinent facts of experience, the degeneration of offspring proceeding from those who develop a particular strain of character and starve other qualities, from those who are wanting in order, balance, and harmony. The result will be a finding that it is not unreasonable to expect that the errors and evil-doings of fathers are visited upon the natures of their children.

This close reasoning sums up in favour of what has been, throughout the ages, generally accepted as true in experience. When Herbert Spencer replied to Weissmann in two small pamphlets his position commanded our approval, but much has been written on the subject of heredity since that time. In the light of experimental observations Dr. Maudsley returns to the discussion, and we hope that our readers will study this little work of his with the precise care which it commands.

The essay on Shakespeare, "testimonied in his own bringings forth," was printed privately as the result of a study made during Dr. Maudsley's Australian visit. It fitly succeeds the former part of the book, forming a concrete example of genius in expression. It does not evade disreputable events, which were just as essential as Shakespeare's industry and imaginative fertility. Needless to say, it is untainted by the Baconian heresy. We are glad to have this essay in an accessible form.

The last section is a reprint of Dr. Maudsley's address on medicine delivered at the Leicester meeting of the British Medical Association in 1905. We assume that it is familiar to our readers. In the end it sums up the discussion by Dr. Maudsley's declaration that it is the moral or affective nature—the tone of feeling infused into the forming germ—which counts most in human heredity, and he endorses the saying of Descartes that if mankind is to be perfected the means of perfecting it must be sought in the medical sciences. That saying is an incitement and an encouragement.

Über Familienmord durch Geisteskranke [*On the Insane who Murder their Families*]. By Dr. P. NÄCKE. Halle: Marhold, 1908. Pp. 140, 8vo.

Dr. Näcke believes that no attempt has hitherto been made to investigate in a comprehensive way the insane who murder their families, and here attempts to fill that *lacuna*. He has been the more moved to undertake the task since he considers that such murders are constantly becoming more frequent. He excludes from his field of view all murderers who cannot fairly be termed insane in the most complete sense, though he fully admits the vagueness of the term "insanity." Even, however, when doubtful cases have been eliminated, Näcke estimates the probable number of cases published in psychiatric literature at some thousands. He bases his work on a series of 161 unselected cases (110 men and 51 women); the histories of 63 of these cases, belonging to Saxony, have not before been published, and are set down at the end of the book.

A distinction is made between complete and incomplete family-murder, according as the whole family is killed or only one member, the latter being much the more frequent form. The complete form sometimes includes the suicide of the perpetrator, and Näcke agrees with Cramer that every patient with a tendency to suicide must be regarded as dangerous. Environment is a factor in family-murder that is often under-estimated, though Näcke refers to Mercier as having given in his *Sanity and Insanity* perhaps the best account of the influence of this factor.

The usual age in these cases is between twenty and forty, and the usual occupation is some form of manual labour; family-murder is very rare among the better social classes. The men in 66 *per cent.* cases attack their wives, but only in 10 *per cent.* cases their children; the wives, on the other hand, in only 6 *per cent.* cases attack their husbands, but in 76 *per cent.* their children. The more remote relations are also more frequently attacked by the wife. It is notable, however, that not in a single case is the mother-in-law the victim.

With regard to motive, the data are not always sufficiently precise to enable reliable conclusions to be drawn. It is clear, however, Näcke concludes, that in most cases strong emotion following a quarrel or worry has been the cause of the act. Delusions were present or probable in 46 *per cent.* men and 10 *per cent.* women. Delusions caused by jealousy were specially frequent, and by no means merely in the case of drinkers. A frequent motive is of altruistic character, the children being killed in order to save them from poverty and shame; most complete family-murders by "normal" persons belong to this class, and not a few of those committed by the insane. Hereditary degeneration appeared to be probable in about 75 *per cent.* men and 95 *per cent.* women, this high proportion, especially in the case of women, not being unexpected in view of the abnormal character of the act.

With regard to the form of insanity, chronic alcoholism was stated to be the cause of the psychosis in 25 *per cent.* men, but in none of the women; epilepsy was present in about 14 *per cent.* of both sexes. (Näcke wisely disregards "psychic epilepsy.") In order of decreasing

frequency, chronic alcoholism, paranoia and epilepsy were the prevailing forms in men ; while melancholia, paranoia and dementia præcox were the prevailing forms in women. It should be added that, while recognising the evils of alcohol, Näcke is sceptical regarding statements about "chronic alcoholism," on account of the difficulty of determining where alcoholism begins, and (while speaking very highly of such workers as Sullivan) he protests against the unscientific exaggerations so common in this matter. He has much of interest to say in regard to the relation of the various psychoses to family murder.

A final section is devoted to prophylaxis. Näcke is not prepared to agree with Toulouse that the patient need not be confined until he has shown signs of being dangerous, and thinks that the possibility of his becoming dangerous must be viewed from a more comprehensive standpoint. It must also be remembered that the family is often an acute cause of irritation to the patient. Delusions or hallucinations involving ideas of persecution or jealousy concentrated on the family should furnish warning indications, and the character of the patient, rather than the form of the insanity, should determine the mode of procedure. As regards social prophylaxis, early marriage should be discouraged and divorce rendered easier. It is necessary, also, to teach stringently the undesirability of marriage between the neuropathic and degenerate of whatever class. In such cases Näcke is, moreover, in favour of castration in the form of vasectomy, on the ethical ground that every child has a right to be well born. With reference to infanticide, Näcke advocates the increased protection of the mother and the establishment of homes for pregnant and suckling women, as well as for illegitimate children. He would have an absolute equality of legitimate and illegitimate offspring, as being demanded not only by reason and morality, but by the State's need of good citizens. Some of these demands, it is obvious, although they are gaining ground in Germany, will not meet with universal approval, and in any case medicine alone is impotent to carry them into practice.

It is scarcely necessary to remark that the author shows throughout his usual care and precision, as well as his extremely wide knowledge of the literature of his subject ; he is equally familiar with what has been done in Anglo-Saxon and in Latin lands. At the end of the volume the main facts concerning the cases dealt with are conveniently arranged in a tabular form.

A monograph of this kind inevitably raises the question as to the relationship between insanity and criminality. Dr. Näcke briefly discusses this relationship, and reaches the temperate and reasonable conclusion that, while the criminal and the insane appear on a common ground of extremely degenerate heredity, they are not identical, although related.

HAVELOCK ELLIS.

Guide to the Clinical Examination and Treatment of Sick Children.
2nd Edition. By JOHN THOMSON, M.D. Edinburgh and London:
Green & Sons. Demy 8vo., pp. 650.

We are pleased to see a new and enlarged edition of this most useful book. Dr. Thomson has shown rare skill in the description of

the clinical aspects of the diseases of children. This is much assisted by well-chosen illustrations, of which there are 160. In unfolding the resources of medicine he only presents such pathological details as bear directly upon treatment. The neurologist will read with interest the chapters upon the symptoms of nervous diseases, and on paralysis and meningitis. Dr. Thomson's observations on the first signs of mental feebleness in infancy form a real addition to our knowledge. He advises the medical attendant not to be too ready in telling the parents that their child is mentally defective, because a large proportion of imbecile babies die early, and the parents are thus spared a most unpleasant piece of information. If a sudden intimation of this kind be made, they either refuse to accept it, or it causes such discouragement as to paralyse their efforts for the child's improvement. "It is by trying to make him do things better that they will come to see the true state of the case." In his description of Mongolism, Dr. Thomson tell us that the characteristic transverse fissures of the tongue do not appear before the third or fourth year. He does not mention the very decided liability of Mongolian idiots to fall victims to tubercular disease. The most cheering pages about the treatment of feeble-mindedness in children are those which record the thyroid administration in sporadic cretinism. The increase of growth and bodily health arouse hopes of corresponding mental improvement which are not always fulfilled. Dr. Thomson gives the caution that, if the thyroid treatment be commenced as late as the age of puberty, it has a tendency to cause softening of the shafts of the long bones, so that, if the patient be kept much on his feet, marked bow-leg will develop.

WILLIAM W. IRELAND.

Part III.—Epitome of Current Literature.

[This Epitome is mainly a record of psychiatric and allied work published in the exchange journals, chiefly foreign. Abstracts are not, as a rule, made from the more widely-read journals published in the United Kingdom. The Editors would be obliged if members of the Association, who are willing to assist with the translation of the various foreign articles, would communicate with the Assistant Editor, Horton Asylum, Epsom.]

1. Anthropology.

The Brains of Distinguished Men ("A Study of the Brains of Six Eminent Scientists and Scholars"). (Trans. Am. Phil. Soc., vol. xxi., 1907.) Spitzka, E. A.

For some years past Prof. Spitzka has devoted himself with admirable energy and ability to the task of securing and investigating the brains of men of high intellectual distinction. He has been so successful that at

a comparatively early period in life he occupies with Retzius the leading position in this very special field. The present substantial monograph, copiously and beautifully illustrated, is so far his most important study in this direction.

The six eminent men whose brains are here studied are Prof. Cope (whose skull is also described and figured), the brothers Joseph and Philip Leidy, Dr. Pepper, Prof. Harrison Allen, and Dr. A. J. Parker, all men of high ability, and two, at least, of great distinction and fame. Spitzka's style is lucid, and his descriptions, though comprehensive, are not over-elaborate. A special feature of his inquiry, as in previous studies, is the attempt to correlate the relative development of the various regions of the brain with the special character of the possessor's mind; this attempt may not always lead to convincing conclusions, but it is on the right lines.

A very interesting and valuable part of the paper is the list of the brains of eminent men (and women) previously examined, with their weights and some other data when available. This list contains 137 items, and seems to be complete up to the date of its publication, although at a few minor points the details might be improved, mainly because of the author's difficulty in reaching in every case the original authority. He is unable to follow Broca in accepting the very heavy brain assigned to Oliver Cromwell, and he also rejects Byron's brain, although Byron's autopsy appears to have been conducted in a fairly thorough manner.

HAVELOCK ELLIS.

2. Neurology.

Recent Studies of the Histogenesis of the Neuroglia. [*Studi recenti sull'istogenesi della neuroglia*]. (*Riv. Speriment. di Freniat., vol. xxxiii, Fasc. 4.*) Cerletti, U.

This critical review by Dr. Cerletti is a result of the recent active renewal of the controversy between the many followers of the primitive doctrine of His. On the one hand those who hold that the neuroglia is of exclusively ectodermal or epiblastic origin, and on the other those who assign to it a double origin—both epiblastic and mesoblastic. Dr. Cerletti concludes that in spite of numerous researches the question still remains unsettled, although he inclines, with the majority of writers, to a single origin of the neuroglia. His himself, it is pointed out, has oscillated in his opinion. At first he enunciated an exclusively ectodermal origin of the neuroglia; later he admitted that at a determined period of embryonal life a secondary formation of neuroglia arose from the connective-tissue cells of the blood-vessels, and joined the primary ectodermal neuroglia; while somewhat recently he has reverted to his original view.

The several writers who support the theory of a double origin of the neuroglia are criticised by Cerletti, and, taking them in chronological order, he refers first to the "mesoglia" cells of Dr. Ford Robertson, which he suggests are probably due to defective reaction in the platinum impregnation method used, and that the author is not justified in holding that these cells are of mesoblastic origin because other tissues of mesoblastic origin take a similar staining reaction under like circum-

stances. A criticism on the same lines is dealt out to Hatai. Hardesty, who bases his opinion mainly on the morphological character of the neuroglial cells, is another author who favours a double origin of the neuroglia.

Dr. Cerletti is supported by Da Fano in opposing Held's opinion of a limiting membrane, which, according to Held, prevents the penetration of mesodermic elements into the nervous system. Held affirms decisively that in no place does the neuroglia receive an intromission of mesodermic elements.

Cerletti points out, however, that the apparent differences of opinion may be due to the fact that the term "neuroglia" is not definite, but may be applied to the various elements that are neither special nervous elements nor common connective-tissue elements.

The views of Held, Bonome, and Bianchi in support of a purely epiblastic origin of the neuroglia are very fully discussed. Bianchi notes the differentiation between the cellular elements from the ependyma in the embryo. There are three types of cells :

(1) Large cells with transparent protoplasm, in which the nuclei show mitosis.

(2) Pyriform elements which colour intensely with safranin, and which have a process passing towards the central canal and frequently inserted into its margin.

(3) Rounded elements without processes, very scarce in protoplasm, and slightly colourable.

The first type are probably the germinal cells of His, the second Bianchi calls "spongioblasts," and the third "neuroblasts." Bonome arrives at the same general opinions as Bianchi, but his nomenclature is different. He uses the term "indifferent cells," and applies the word "neuroblast" at a later period of development than it is applied by Bianchi. He holds that one part of the "neuroblasts" of Bianchi is active in the formation of neuroglia, while the other part forms nerve cells. The work of Bonome on the origin and evolution of the network of the embryonal nervous system is much praised by Dr. Cerletti.

HAMILTON C. MARR.

Left-sided Motor Apraxy : a Contribution to the Physiology of the Corpus Callosum [*Linksseitige motorische Apraxie : ein Beitrag zur Physiologie des Balkens*]. (*Allg. Zeits. f. Psychiat.*, Bd. 64, H. 2.) Vleuten.

A coachman, æt. 55, previously healthy, was troubled with general symptoms of cerebral disease—insomnia and giddiness. One day he sank down, without losing consciousness. He felt confused, and could not carry on his business. On September 4th he sought admission to the hospital at Dalldorf, when it was found that, while the understanding, repeating of words and reading were well maintained, he had a difficulty in finding words, sometimes using wrong ones. A slight weakening of the seventh cranial nerve was noticed. Although the left arm was not paralysed, he was unable to perform any actions with it. In the right arm there was a tremor, even while at rest ; it was increased by motion. But when he seized an object with the right hand he was unable to let it go. Tremors and perseverance in plantar flexion were noticed to a less degree in the right leg. Except the

difficulty of relaxing a grasp, the right hand was the most serviceable ; but with the left hand he could not do what he wanted. Sometimes he executed movements which he did not wish, though he quite understood what he desired to do. The performance of designed movements of the tongue was impaired, but not that of imitated movements.

At a later stage, the power of the right hand was lessened, but the left hand still remained the most unserviceable. In the utterance of words there was a tendency to repetition, and a slowing of speech passing into stuttering. In performing complex actions, the patient was apt to do first what should have been the last movement. The patient sank into a drowsy apathetic state, and the right hand became paretic. He died on November 6th.

On opening the skull, the brain appeared puffed out, and on section a tumour was found in the left centrum ovale. Beginning with a knot of the size of a lentil about a centimètre in front of the genu of the corpus callosum, the tumour extended backwards and downwards over about two-thirds of the white matter, and pushed such of the grey matter of the left gyrus fornicatus as was not destroyed across the middle line. It is noted that much of the involved brain substance was displaced rather than destroyed. The description of the lesion is illustrated by seven engravings of sections of the hemispheres. The whole of the left portion of the corpus callosum was found to be destroyed, only the rostrum remaining. On the right side of the trabs, the greater part of the genu and about the fifth of the posterior part still remained. The tumour seems nowhere to have invaded the grey matter of the convolutions save at the gyrus fornicatus, and the basal ganglia were only touched in a slight degree. Vleuten observes that in this case the connection between the right and left hemispheres was cut off ; the lesions were on the left side of the brain, while the right hemisphere was unaffected. He explains the inefficiency of the left hand through Liepmann's theory of the function of the corpus callosum, which is stated at some length at page 450 of the same number of the *Zeitschrift*.

Liepmann holds that with the majority of men the left hemisphere takes a leading part in designed movements, especially in those which have recourse to the memory by exerting an influence through the corpus callosum on the right hemisphere. Thus an interruption in its fibres may become the cause of inefficiency of the left hand (dyspraxy). This view is supported by Liepmann's own observations, by those of Maas and Hartmann, as well as the case under consideration. Vleuten, however, acknowledges that in Paul Schuster's book on the *Psychische Störungen bei Hirntumoren* (Stuttgart, 1902), there is a description of thirty one cases of tumours affecting the corpus callosum and its neighbourhood in which no inefficiency of the left hand was noticed. Vleuten thinks that this was because such symptoms were not looked for. He omits to mention that there are at least six cases on record of total deficiency of the corpus callosum without any mental, motor, or sensory deficiencies being noticed.

Vleuten considers that his case not only confirms the view that the left hemisphere plays a leading part in complex movements, but that it negatives the opinion of Pierre Marie that in apraxy there is always some loss of intelligence.

WILLIAM W. IRELAND.

3. Physiological Psychology.

Psycho-pathology of Everyday Life [*Psycho-pathologie de la vie quotidienne*].
(*Arch. de Psychol.*, Feb., 1908.) Maeder, A.

In this paper, the author demonstrates that various unexpected and seemingly accidental modes of reaction in normal people are based upon the psychological mechanism by which unpleasant experiences tend to be suppressed from the personal consciousness either voluntarily or automatically. This suppression may be effected by *isolation* of the complex—avoidance of all the associations which relate to it or by *derivation*—active distraction of the subject who turns away from the complex and directs his energy and attention into other channels. In the normal individual these methods of “forgetting” can only apply to events of little importance; those which have produced a strong emotional reaction are difficult to repress. In the hysteric, such events may be truly suppressed, and are then manifested by attacks, somnambulisms, etc. Analogous, however, to these hysterical states are many instances of lapsus linguæ, slips of the pen and sudden emotional outbursts over trivialities, such reactions being frequently the result of the momentary irruption of a complex into the personal consciousness. The author gives numerous examples occurring in daily life which scarcely lend themselves to abstracting. The principles laid down are of paramount importance, illustrating as they do the identity of the mechanism which produces slight disturbances of thought and actions in normal people on the one hand, and the more serious disturbances, hysteria, psychasthenia, and insanity, on the other. H. DEVINE.

4. Ætiology of Insanity.

Investigations regarding Insane Patients with Hereditary Diatheses
[*Untersuchungen über die erblichen belasteten Geisteskrankungen*].
(*Allg. Zeits. Psychiat.*, Bd. 64, H. 1.) Tigges.

Dr. Tigges fills forty-six pages with his further researches on the hereditary relations of insanity gathered from wide reading and personal observations. The paper is supported with many carefully compiled tables. His statistics confirm the generally received view of the frequency of heredity as a predisposing cause of insanity. Tigges' figures seem to indicate that in direct descent the influence of the mother is most powerful in transmitting insanity, especially to daughters. His conclusions agree with those of Baillarger and Jung, but are sometimes at variance with statistics taken from the Swiss, English and American asylums, in which the influence of the male parents appears greater. The transmission of the neurosis is most marked when both parents are insane. WILLIAM W. IRELAND.

On Heredity in Dementia Præcox. (*Allg. Zeitsch.*, Bd. 64, H. 2).
Wolfsohn.

Dr. Ryssia Wolfsohn has made special inquiries into the hereditary transmission of this form of insanity. Out of 2,215 insane patients

(1,337 male and 878 females), he has found 647 cases of dementia præcox, *i. e.* 30 *per cent.* (23 *per cent.* male and 39 *per cent.* female).

As causal factors in the transmission of insanity through direct and indirect insanities he takes into account insanity and nervous diseases, but only counts drunkenness in the father or mother. Leaving out 97, in whom the history was defective, Dr. Wolfsohn has 550 cases of dementia præcox upon which to study the incidence of heredity. In 56 patients no heredity was found, while it was traced in 494 cases (235 male and 259 female), that is, in 91 *per cent.* male and 85 *per cent.* female.

She observes that out of her 647 cases 243 (146 male and 97 female) were ranked in the hebephrenic form; 239 (77 male and 162 female) in the katatonic, and 165 (282 males and 83 females) in the paranoidal form of dementia præcox. Wolfsohn's deductions are supported by a variety of tables which will, at least, convince the reader who glances over them, of the painstaking way in which the article has been composed.

She thus sums up her inquiries: (1) A hereditary taint has been found in 90 *per cent.* of the cases of dementia præcox, male and female.

(2) Of the four factors, insanity in the ascendants is the most frequent, being about 64 *per cent.*, after which come nervous diseases, then alcoholism, and last, eccentricity of conduct.

(3) In 34 *per cent.* of all the cases there was a combination of causes, especially insanity with alcoholism and insanity with nervous diseases.

(4) Where alcoholism, nervous diseases and abnormal character appear as hereditary causes, no especial direction of the form of the dementia can be made out, while the transmission through insane relatives seems in some degree to incline to the katatonic and the paranoidal form of the dementia.

(5) No connection can be traced between the hereditary taint and the severity of the symptoms of dementia præcox.

WILLIAM W. IRELAND.

5. Clinical Psychiatry and Neurology.

Contribution to the Symptomatology of Paralysis Agitans [*Ein Beitrag zur Symptomatologie der Paralysis agitans*]. (*Neur. Cbl. No. 15*, 1908.) Pelz, A.

A case of paralysis agitans in a man, æt. 59, is given. The peculiar symptoms in this case are that the tremor is not noticeable when the patient is at rest; it is only elicited when voluntary movements are made. The tremor is not quite typical, as the movements seem to pass more rapidly and are less persistent than is usual. There is also a peculiar disturbance in the pigmentation of the skin. This seems to be a typical vitiligo. Other symptoms given, such as defective speech, bladder symptoms, etc., are common in cases of paralysis agitans.

HAMILTON C. MARR.

A Case of Motor Apraxy [*Ueber einen Fall von Motorischen Apraxie*]. (*Allg. Zeitg. f. Psychiat., Bd. 64, H. 2.*) Westphal.

T— was a man, æt. 38, who had several slight apoplectic attacks with passing pareses, some delusions, hallucinations, and other symptoms

of mental derangement. Both arms could be freely moved ; there was no loss of co-ordination, and no traces of the former paresis. Speech was somewhat affected ; there was a loss of words or wrong words were used. Some degree of mental blindness was suspected. Both hands were found useless to perform complex actions, while it appeared that the apraxy did not implicate the motor cranial nerves. Westphal tells us that in the great majority of instances of apraxy the deficiency is confined to the left hand, or the right hand is less affected. It requires some subtle analysis to distinguish between the loss of mental conception and that of the due performance of the designed action. There were several nervous incapacities in this patient ; but, according to Westphal, the motor apraxy ran like a red thread through the whole disease.

The patient died after the article was written. The author was able in a note to record the result of the examination. The most important changes found were sclerosis of the arteries and a considerable hydrocephalus internus. The widening was greater in the left ventricle. The corpus callosum to the naked eye did not appear to be affected.

WILLIAM W. IRELAND.

A Case of Impaired Sense of Perspective [Über ein en Fall von partieller Störung der Tiefenwahrnehmung]. (Allg. Zeits. f. Psychiat., Bd. 64, H. 1.) Kramer.

Dr. Kramer describes a patient who had an apoplectic attack accompanied by aphasia and asymbolia. These symptoms soon passed away, leaving only a slight slowness in finding the words, and a dulness in writing and reading. The patient was found to be incapable of recognising the perspective in drawings. Looking at engravings he recognised the outlines, but the whole image appeared flat. Thus, in stereometrical drawings he only saw the bare lines. He had no difficulty in recognising letters. Thus the sentiment of depth and space seems to have been, in this case, somewhat deranged. The case was reported to the East German Association.

WILLIAM W. IRELAND.

Case of Cysticercus in the Brain [Ueber einen Fall von Hirncysticercus]. (Allg. Zeits., Bd. 64, H. 2.) Cramer.

A woman, æt. 47, previously healthy, was suddenly seized with pains in the head, giddiness, inability to walk and occasional vomiting. When admitted into the Klinik for mental and nervous diseases at Göttingen, she was found to be affected by loud noises in the head, pain in the left occipital region and thereabout. These pains were altered by position—they were aggravated when she rose up. The head was held to the left. No alteration was noticed in the cranial nerves or in the eyes. There was increased sensibility to pin-pricks on the left side of the body, also tremulous motions of the tongue, and the reflexes in the arms and legs were increased. The vomiting became more frequent and with violent headaches. On one occasion, there was noted itching and a pain in the fingers with a stiffness of one of them. At the same time there was inequality of the pupils. These symptoms were followed by spasm of the fingers of both hands. Then suddenly there came relaxed paresis of the right arm without change in the reflexes. Next day there super-

vened total paralysis of the right arm and leg with weakness of the bladder. After two days, the paralysis of the right leg passed away; that of the arm remained and also seized the left arm. Further symptoms were rapid breathing, aphonia—which did not last long—and then paresis of all the extremities with reflexes sustained, and normal sensibility. After a general improvement of all the symptoms death came on suddenly. The patient had been ill for eighteen weeks, two months of which were spent in the hospital. There was never any loss of consciousness. The mental affection in this case seemed of a hysterical character, rapid changes of mood, excitement, discontent, suspicions, fear of poisoning and loss of the sentiment of shame. The most remarkable thing in the course of the malady was the rapid shifting of the symptoms. On examination there were found cysticerci at the right side between the pons and the crus cerebri. The increase or shrinking of the cysticerci may account for the changes in the symptoms. This is a disease difficult to diagnose, and being very rare in this country is not likely to be suspected. It is becoming less frequent in Germany.

WILLIAM W. IRELAND.

A Case of Cerebral Syphilis with Korsakoff's Syndrome of Pure Amnesic Form [Un cas de Syphilis Cerebrale avec Syndrome de Korsakoff a forme Amnesique Pure]. (*Journ. de Psychol.*, July, Aug., 1908.) Chaslin et Portcallis.

The patient, æt. 61, had contracted syphilis at the age of fifteen. An apoplectiform attack two years before admission had been followed by loss of memory. The only mental symptoms he presented when first under observation were a complete loss of capacity of mnemonic acquisition and an extensive amnesia for past events. The features of especial interest were the absence of mental confusion; illusions of memory were very rare, and he showed no tendency to confabulate. The patient retained complete consciousness of his incapacity, his reasoning powers were unimpaired, and his conduct correct. The authors point out that it is curious that such a profound disorder of the memory, involving disorientation in time and space, can co-exist with such striking intellectual integrity, as if certain facts apparently not "stored up" were nevertheless utilised (amnesia of assimilation). Physically the only signs present were exaggerated knee-jerks and extensor response. Lumbar puncture showed abundant lymphocytosis. The absence of pupillary anomalies, speech disorders, etc., together with total absence of actual intellectual enfeeblement, distinguished the case, clinically, from one of general paralysis. The *post-mortem* appearances are described and discussed as regards their relation to the latter disorder.

H. DEVINE.

The So-called Korsakoff Psychosis [Über die sogen. Korsakoffsche Psychose], (*Gaz. Lekarska*, 1907, No. 33 u. 34. Ref. Edward Flatau, *Neurol.*, Cbl., Nr. 15, 1908.) Bornstein.

The author discusses the modern aspects of this disease, and depicts the case of a man, æt. 55, whose illness he believes to be Korsakoff's. The differential diagnosis of this case (polyneuritis, paralysis progressiva, presbyophrenia, etc.) is afterwards brought up, and the author is of opinion

that the condition is probably influenced by a cerebral arterio-sclerotic affection (headaches, sickness, static and kinetic ataxia, exaggeration of the tendon reflexes and derangement of the pupils). With regard to the nosological placing of Korsakoff's psychosis, the author reaches the following conclusions :

(1) The ætiology of the so-called Korsakoff's psychosis may be a varied one. Generally chronic alcoholism is a factor. The same symptom-complex may be met with in general paralysis, lues cerebri, apoplexia cerebri, poisoning, etc.

(2) The beginning and course of the disease may also be varied. The view taken by Bonhoeffer and Kraepelin regarding the characteristic preliminary stages in the form of delirium tremens and stupor alcoholismus has not yet been proved.

(3) The psychic disturbances, which are a feature, can be reckoned on as being nearly always present, and independent of the ætiology. The disease is frequently accompanied by polyneuritis.

(4) From a psychiatric point of view Korsakoff's psychosis should be looked upon only as a characteristic symptom-complex and not as a clinical unit, and generally for the reason that, in spite of conformable course and symptoms, the prognosis is dependent on the origin of the disease. The symptom-complex could now be termed a "nosological" unit only when it is found in combination with polyneuritis resulting from chronic alcoholism.

HAMILTON C. MARR.

Time Sense with Korsakoff's Disease [*Zur Kenntnis des Zeitsinnes bei der Korsakoffschen Geistesstörung*]. (*Monats. f. Psych. u. Neur.*, vol. vi, 1908.) Gregor, A.

So far as a comparison could be made, a person suffering from Korsakoff's disease did not make greater mistakes in judging time space than were made by normal persons. HAMILTON C. MARR.

Functional Corectopia in Epileptics [*Le Corectopie funzionali negli Epilittici*]. (*Arch. di Psichiat.*, vol. xxix, fasc. i-ii, 1908.) Negro.

It has been often pointed out that occasionally in normal persons, and much more frequently in epileptics, and also in so-called degenerates, the pupil may be markedly eccentric. As this corectopia persists when the pupil contracts or dilates, it is presumably due to a permanent anatomical peculiarity of the iris, and as such it has been reckoned amongst the stigmata of degeneracy. Negro has found that a similar appearance may be observed as a transitory condition in many epileptics when the accommodation is relaxed and the eyes are examined in a dim light. Under these circumstances, when the observation is continued for a short time the degree of corectopia is seen to alter, and this is especially distinct in cases of hippus. When the pupil contracts, whether under the influence of light or in efforts of accommodation, or after the exhibition of a myotic, the eccentricity disappears ; and from this the author infers that the condition is due to an irregularity of tonus in the dilator apparatus under the control of the sympathetic. When the peripheral terminations of the sympathetic are stimulated by weak solution of cocaine the ectopia also disappears,

suggesting that the functional irregularity which produces this condition has its seat in the nervous centres governing the active dilatation of the pupil. As an index of nervous instability the author thinks that the phenomenon may have a diagnostic value in cases where epilepsy is suspected. He has found it in from 8 to 10 *per cent.* of his epileptic patients, and only very rarely in non-epileptics. W. C. SULLIVAN.

The Appearance of a Paralysis following an Accident in a Youth of 16.
[*Apparition du syndrome paralytique, à la suite d'un traumatisme, un garçon de 16 ans*]. (*Bull. Soc. Clin. Med. Ment.*, July, 1908.)
Colin, H.

The interest of the following case lay in the diagnosis—whether it was juvenile general paralysis or no. It has been stated that general paralysis in the adult arises in ordinary persons, whereas in children it is manifested only in degenerates, or in those whose family history is tainted with insanity, and that the character of the disease in children differs a good deal from the classical type, although the *post-mortem* examination of the nervous system will often show lesions resembling those of general paralysis or syphilis. Another point to be considered, in view of compensation, is whether the accident influenced the progress of the disease?

The youth, the second child of a family of eight, three of whom died from convulsions, and whose father was an alcoholic, up to the age of 16 was quite normal in intelligence and a good worker in a tannery. He then injured a finger in a machine, which necessitated the removal of the phalanx. Shortly afterwards he began to show signs of mental deterioration, *i.e.*, his work became bad, he became the butt of his companions, untidy in dress, forgetful, and showed outbursts of unreasonable temper. He lost his balance descending stairs, speech became blurred, and he had fits of vertigo. He showed a paresis of his right side and did not use his right arm. Upon his admission into the Asylum $2\frac{1}{2}$ years after the accident his appearance was that of an idiot or dement, laughing foolishly, repeating the same expressions, and taking but little notice of his surroundings. At times, however, he would reply rationally to questions, showing that he was not quite devoid of all intelligence. He was defective in his habits.

Physically, although 18, he appeared no more than 15. He presented signs of infantilism, arrested growth of his genitals, no pubic hair, small testicles, large belly which contrasted markedly with the thinness of his limbs, cyanosed extremities and marked paresis. The reflexes were diminished, Babinski's sign present, and speech was hesitating, tremulous and jerky. The pupils were unequal, reacted badly to light, but the Argyll-Robertson's sign was absent.

A discussion ensued as to whether it was a case of juvenile general paralysis, for transitory paralyzes, arrest of development, and a simple dementia all form a part of this disease. Insular sclerosis of the brain was also suggested, from the nature of the speech, the gait and paresis. One member, having performed a lumbar puncture, stated that he had obtained positive results from the leucocytes and the positive reaction of Wasserman, showing that there was an affection of the membranes of syphilitic nature. The general opinion was that the case was one of

arrested development with cerebral lesions, probably of an inherited syphilitic nature, and these caused the onset of the paralysis.

It was not decided if the accident accelerated the condition.

SIDNEY CLARKE.

Arrest of the Symptoms in a General Paralytic for Twelve Years
[*Rémission chez une Paralytique Générale*]. (*Bull. Soc. Clin. Med. Ment.*, June, 1908.) Leroy, M.

The patient was a Jewess, æt. 42, having been an actress, and having cohabited with a man for fifteen years. She had three children, the first and third being born dead, and the second died, æt. 7, from meningitis.

She was admitted into an asylum in 1896, and owing to her gait, speech, apathy, etc., was diagnosed as a general paralytic by two independent observers. Nine years later she was examined by a third independent doctor, who came to a similar opinion.

At present she shows the classical signs: myosis, pupils not reacting to light or accommodation, absent knee-jerks, characteristic speech, indifference to her surroundings, foolish look, apathy, but with some intelligence. She has slight inco-ordination of her legs, and some muscular weakness. This case seems to be one of general paralysis and tabes combined, and it is difficult to say in which category it should be placed. However, the length of time of arrest (it can hardly be called a remission) is remarkable.

Two other points are noteworthy: General paralysis in a woman is not common, whilst syphilis in a Jewess is still more rare.

SIDNEY CLARKE.

A Case of Acromegaly with Epilepsy and Manic-Depressive Insanity
[*Sur un Cas d'Acromégalie avec Épilepsie et Psychose Maniaque-dépressive*]. (*Gaz. des Hôp.*, Aug. 6th, 1908.) Roubinovitch, J.

The nervous and mental troubles as seen in certain cases of acromegaly are worthy of study, inasmuch as they seem to be caused by a disturbance in the function of certain glands, and thus may be due to an auto-intoxication. Brunet has stated that 25 *per cent.* of those suffering from this disease exhibit mental disorders. Hysteria, delirium, epilepsy, etc., have all been described as complications, but the author of the paper claims that manic-depressive insanity, together with epilepsy, has not been previously described.

The patient, æt. 38, a valet, was shown at a meeting at the Bicêtre Hospital last May.

The family history is interesting because of the suggestion by Massalongo that gigantism and acromegaly are one and the same disease, for in this family the tendency to the complaint seemed to have been inherited. The maternal grandfather was renowned for his size and muscular power; the mother was also very large; a maternal uncle was 6 ft. 1 in.; and a sister was 5 ft. 9 in. His father suffered from "cerebral fever" about six years before this child was born.

The patient's development seemed normal until he was twenty, but it had been noticed that at about the age of eight his limbs were more

developed than they should have been. At twenty-two he had measles, scarlet and typhoid fever, and shortly afterwards a syphilitic chancre, which, however, was not followed by any secondary symptoms. He was not an alcoholic nor a smoker. Then about this time he began to show signs of a tumour of the pituitary body. It began by an enfeebled vision in the left eye, which proceeded in two years to complete blindness, accompanied by acute orbital pains and a slight strabismus in the right eye. When nearly twenty-four he began to gain weight, rising from barely 15 st. to 16½ st. At the age of thirty he began to have fits, and five years later mental symptoms became manifest.

The present condition is minutely described and various measurements recorded. Here the more important facts only can be stated.

The face, which was oval and rounded, had become oval and elongated. A radiogram shows hypertrophy of the bone in the base of the skull, and the sella turcica appears to be increased in volume owing to the growth of the imprisoned gland. The hands and feet are broad and racket-shaped, and the skeleton of the hands hypertrophied. The spine, in the middle, shows a scoliosis to the right, which is stated to be generally present in this disease. The other bones of arms, legs, and thorax seem normal, but the integument covering them is thickened, making the patient to look coarse and obese. Large pads of thickened tissue surround the joints. He is still vigorous and strong, as demonstrated by dynamometers, contrasting strongly with the amyotrophic form of this disease.

He has persisting headaches, which do not yield to any therapeutic measure, except to lumbar puncture. He is remarkably sensitive to cold, and likes his room to be kept at 86° F. Macroglossia is not marked.

The left eye is blind, but the pupil contracts upon convergence of the eyes, but does not respond to light. There is nasal hemianopia in the right eye, together with a partial blindness of the temporal side. The pupil reacts to light; there is a marked divergent strabismus, due to the blindness of the left eye, and not to a lesion of a motor nerve. He has hummings in his ears; the sense of smell is attenuated; the other reflexes are normal. His genital organs are small and under-developed, but he has seldom sexual desires. The examination of the urine shows no sugar, but a diminished output of urea and chlorides. He also has phthisis.

The epileptic symptoms were frequent at first, and were of the convulsive character. Occasionally he had true attacks of *petit mal*, followed by impulsive actions. Then, after several years, his memory failed, and he became dull and morose, fancying he would die, etc. Following this he became excited and joyous, during which time he would sing and write page after page of prose or verse. This, in turn, was followed by a general apathy.

The writer observes that cases of acromegaly have been described which showed no lesion in the pituitary body, whereas growths of this gland have been recorded without other symptoms. He thinks it extremely probable that acromegaly is the result of an altered nutrition of the whole of the body, and that the lesion in the pituitary body is rather the consequence of the disease, and may be the clinical mani-

festation of a hyperplasia of all the glands which give an internal secretion, as described by Strumpell. He says that surgical treatment has been tried with success by Hochenegg (of Vienna), but would not advocate it in this case owing to the gross eye lesions.

SIDNEY CLARKE.

Delusions of Persecution in a Degenerate, followed by Rapid Dementia, Epilepsy, and a Paralysis [*Délire de persécution in a dégénéré—Evolution rapide vers la démence—Apparition tardive du syndrome paralytic et d'attaques d'épilepsie*]. (*Soc. Clin. Med. Ment.*, July, 1908.) *Pactet, M.*

In order to question whether dementia præcox could be followed by a paralysis, this case was demonstrated. The author admits that it simulates general paralysis, but considering the whole aspect of the case concludes that it is not.

The man at the age of thirty-four, after returning from his honeymoon, began to have ideas of persecution. Up to this age he had been apparently normal, being a good and careful worker, and had good intelligence. His father died of delirium tremens; his mother was not intelligent, and several of his relations were also insane.

The patient himself showed signs of feminism, his breasts being markedly developed, his testicles small, and he had a large pelvis. For two years his ideas of persecution became more marked. He said his friends wanted to kill or poison him. He wrote letters about his persecutors to various ministers of the Government, so that he was sent to the asylum. Then three months later he had an acute attack of excitement, which lasted several weeks, and when this had passed off it was noticed that his intelligence was impaired, and that it grew rapidly worse.

A month or two later he had epileptic fits, which, although only numbering six to eight in the first year, are now becoming more frequent. Ideas of self-importance next became noticed—he stated he was a prince, etc. His speech became embarrassed, the pupils were unequal, and did not react to light. This, briefly, is his present condition.

From the family history, mode of onset, the delirium of persecution for three years, then the rapidly progressing impairment of the intellect, followed by convulsive attacks, the author considers it to be a case of dementia præcox. Several observers, however, did not agree.

One suggested that it was a case of depression with confusion; another thought that this was one of those family affections described by Homen, in which paralysis occurs in insane relatives, which simulates, but is not, general paralysis.

SIDNEY CLARKE.

Meyner's Amentia [*Psychoses Infectieuses, Confusion mentale aiguë, Amentia*]. (*Arch. de Neurol.*, July-Aug., 1908.) *Pilcz, A.*

The principal symptoms of the syndromes included under Meyner's amentia also occur in the febrile deliria of various infectious diseases. Clinical experience shows, however, that they are not necessarily accompanied by fever. In certain cases, the relation to the bodily disease is beyond question; in others, where the physical illness has

preceded the outbreak of mental symptoms by a considerable interval, the connection is more doubtful, although the analogy of diphtheritic paralysis would suggest that a connection does actually exist. The weight of evidence points to amentia being dependent upon a toxic factor, and the author summarises his position as follows: "The pathogenesis of the acute psychoses that are included under the term "Meynert's amentia" is toxic, whether the intoxication be due to external infection, or to gastro-intestinal troubles. The psychosis is only one syndrome of a general morbid process, which attacks mainly the nervous system, both central and peripheral, but also manifests itself in affections of other organs—kidney changes, alterations of general nutrition, etc." In addition to this specific factor one must assume a preliminary disposition, but we do not know in what this consists—heredity does not seem to play an important rôle.

The essential symptom is an affection of the associative processes; hallucinations, though almost always present in great variety, are of secondary importance. The process of connecting one idea with another is difficult to accomplish. Hence the patients are disorientated, they do not recognise their relatives, and everything seems strange and altered to them. They have some subjective appreciation of this defect, and their expression betrays their perplexity and anxiety. The hallucinations lead to complex and fantastic, though transitory, delusions. As a rule motor agitation is slight or absent, but to this there are notable exceptions. The author thinks that catalepsy may occur in amentia, but he has never observed negativism or "vorbeireden." Loss of weight, gastro-intestinal disturbances, etc., are marked.

The disease generally commences in an oscillating manner, with short remissions of apparently perfect sanity. The duration varies from a few weeks to some months, and convalescence is gradual. The prospects of complete cure diminish with the prolongation of the illness. The danger of relapse is but small.

Certain writers differentiate amentia from febrile delirium, collapse delirium, etc., but the author is unable to support this distinction. He thinks that the majority of cases of so-called "acute delirium" are to be ranged under this group.

As regards pathological anatomy, most fatal cases are examples of acute delirium, and here one finds hyperæmia with the various signs of cellular disintegration.

In accordance with the toxic theory, the main therapeutic aim is the elimination of the poison—intestinal purification, milk diet, saline infusions, stomach lavage, etc.

The paper concludes with an extended bibliography.

BERNARD HART.

Motor Crises in a Psychasthenic [Un cas d'agitation motrice forcée chez un dégénéré psychasthénique]. (*Arch. de Neurol.*, Aug.-Sept., 1908.) Schmieregeld, M.

Motor agitation is a symptom of frequent occurrence in psychasthenics. The movements may be rhythmical and systematised (tics), or they may be irregular and inco-ordinated—the "diffuse motor

agitation" of Janet. The following case is an example of this latter variety:

The patient is a male, æt. 29. As a child he was always timid, a dreamer, and fond of reading in a desultory fashion. Since the age of fourteen he has suffered from crises. These consisted at first of a feeling of anxiety and general weakness, accompanied by a universal tremor. Later, the tremor developed into inco-ordinated movements of extreme violence. The patient never loses consciousness, and there is no subsequent amnesia. The total duration is rarely more than a few seconds. The attack is most frequently caused by some emotion—often of a very trifling nature. The patient is occasionally able to avert an impending crisis by keeping quite still for a certain period with his hands in his pockets. He is constantly tormented by the fear that an attack may occur; he dare not go to theatres or concerts, and leads a solitary existence. Alone in his own room, with the door locked, he breathes freely. He complains of an incapacity for continued attention, and although he begins many things, he rarely finishes them. When he writes articles—he is a journalist by profession—he is obsessed with the fear of using a wrong word, or leaving out a comma, and hence reads his proofs again and again.

When questioned concerning the period of his life when the crises first occurred, the patient at first gave evasive answers. It was finally elicited, however, that the attacks developed from various movements of the head and limbs originally accompanying masturbation—a practice in which he has indulged since the age of eight years. For some time the attacks only occurred after masturbation, but finally they began to arise in connection with various other circumstances and emotions.

BERNARD HART.

Hysteria as a Mental Disease [L'hystérie maladie mentale]. (Congrès de Psychiatrie, Neurologie, Psychologie, et assistance des Aliénés, à Amsterdam, September, 1907.) Janet, P.

Hysteria is now generally acknowledged to be a mental disease, and it should therefore be studied psychologically like any other mental disease. For this purpose the common symptoms should be taken, and their relation to the personality of the patient considered. Thus one may take the "deliria" which constitute a characteristic feature of certain hysterics. These are the patients who repeat a scene in which they have formerly acted, or who put some fixed idea into action. During these attacks they are oblivious to everything not related to their delirium, and the attack is followed by complete amnesia. We have, in fact, a system of ideas escaped from, and acting independently of, the other systems constituting the personality. This syndrome differs from that occurring in any other mental disease. Disaggregation exists in the dementias, but there it is much more profound, and affects the actual psychological systems rather than the connection between them. Similarly it is quite different from systematised delusional states in which the morbid complex occupies the whole life in place of certain limited periods. The most nearly allied phenomena are those of psychasthenia, but these may be distinguished by various characteristic

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signs, such as lack of completeness, of subsequent amnesia, etc. One might say, however, that hysteria is only a variety of psychasthenia.

The above considerations apply to all the hysterical accidents. Thus the functions of a limb form a psychological unity, which may in its entirety be emancipated from the control of the personality, hence leading to an hysterical paralysis. It is a question whether the functions do not suffer some alteration in themselves in addition to their emancipation from the personality—*e.g.*, the mode of muscular contraction in the hysterically dissociated limb appears to be different from that in the normal. Some alteration of this kind is also suggested in the various visceral, digestive, and circulatory troubles which occur in hysteria.

It would seem that hysterical symptoms cannot appear in every individual, but that a certain initial general change is necessary—that “diminution of psychic tension” and “lowering of the mental level,” which have been described in connection with psychasthenia. We do not know how to express this in physiological language; the attempts which have been made to do so are merely crude translations of psychological theories into vaguely anatomical language.

To define hysteria as a disease of the imagination, or of ideas, is hardly sufficiently precise, and would apply to all sorts of mental diseases. A similar objection applies to defining it as dependent upon suggestion. If, however, one regards the suggestiveness as dependent upon the dissociations induced by a narrowing of the “field of consciousness,” one makes the definition far more exact. Hence one may conceive hysteria as a form of depressive psychosis characterised by a tendency to narrowing of the field of consciousness, and a consequent dissociation of systems of ideas and functions.

This definition is, however, only provisional, and merely serves to indicate the necessity for more profound psychological analysis, and the need of giving a precise significance to such terms as “suggestion,” “obsession,” “fixed idea,” “association,” etc. BERNARD HART.

A Case as Acathisia (akathisia paræsthetica) cured by Auto-suggestion; Vibratory Paræsthesias [Cas d'acathisie (akathisia paræsthetica) guérie par l'auto-suggestion; Paræsthésies vibratoires]. (Le Prog. Méd., May 30th, 1908.) Stcherbach, A.

The essential phenomenon in acathisia consists in the impossibility of remaining at rest in the sitting posture. The act of sitting provokes certain transitory mental or somatic symptoms of nervous origin, which disappear when the patient changes his position. The following forms have been described:

(1) *Akathisia paralytica*.—The patient displays amnesia for the combination of muscular contractions required in sitting, whilst in every other attitude he can perfectly well contract the same muscles.

(2) *A. spastica*.—Here the act of sitting provokes convulsive phenomena of hysterical character.

(3) *A. psychasthenica*.—Those cases in which impossibility of sitting depends on the feeling of intense anxiety which accompanies the act (catasophobia).

The author describes another variety which he calls *akathisia paræsthetica*. He quotes an instance in a boy, æt. 12. For about a year

the patient had experienced a strange and disagreeable sensation in the lower part of the left thigh and upper two-thirds of the leg, coming on from five to fifteen minutes after he had sat down. This feeling would increase more and more, forcing him finally to stretch the leg, after which he experienced a tendency to stand up. Yielding to this would cause the paræsthesia to disappear. So pronounced was the symptom that he had obtained permission at school to stand up every fifteen minutes during his lessons.

Examination of the nervous system revealed exaggerated knee-jerks and a tendency to ankle clonus. The plantar reflex was variable, sometimes a true extensor response being provoked, and at others extension of all the toes and foot. A vibratory hyperæsthesia of the left leg was demonstrable with the tuning-fork.

Subsequent to the objective examination, which strongly impressed the patient, his symptoms disappeared, and he was able to remain seated for prolonged periods without difficulty. His cure the author attributes to auto-suggestion, the result of this examination.

The association of Babinski's sign with a functional disorder is noteworthy. This, and the other signs usually indicative of organic disease, disappeared after a short time.

H. DEVINE.

The Loss of "Sentiments of Worth" in Mental Depression [La Perte des Sentiments de Valeur dans la Dépression Mentale]. (Journ. de Psychol., vi, 1908.) Janet, Pierre.

The case described by the author in this paper is that of a girl, æt. 23, who, before her present illness, had been intelligent and had occupied a responsible position in a business house. Following a brief period of confusion and excitement a state of inertia and perplexity developed, the most noticeable feature of which was a tendency to touch and examine every object she came across in aimlessly wandering about the house. She displayed various strange alterations of feelings, viz. :

(1) A sentiment of not existing, and a feeling that events did not occupy time. There was no actual amnesia, only a feeling that the events occurring since her illness lacked any temporal relations.

(2) A feeling of fear together with a curious attitude of defiance. Explaining that she is afraid of making a stupid mistake she refuses to do anything unless someone else does the same thing first. Thus, she will not eat unless the nurse eats with her, and eats exactly the same things.

(3) A feeling of doubt in regard to herself and everything about her, leading her to examine minutely everything she sees to try and convince herself of its reality. This attitude of doubt only exists for objects or persons known before her illness. New objects she recognises perfectly and does not need to verify their reality; they have for her, however, one common characteristic—that of baseness. They are all deprived of everything that can please or interest in any way whatever. Any article which is purchased is cheap, common, an imitation, inartistic, disgusting. She applies similar criticisms to her food, water, medicine—everything is bad. This peculiar variety of "incompleteness" the writer summarises under a loss of sentiments of worth. He briefly discusses the case, showing that these alterations of feeling

depend on a defect of attention and a change in the psychological "tension" rather than any cœnæsthetic disorder. The diagnosis lies between an early phase of dementia præcox and manic-depressive insanity.

H. DEVINE.

On Great Mental Depression arising from Political Events [*Über psychische Störung depressiver Natur. entstand en auf dem Boden der gegenwertigen politischen Eriegenisse*]. (*Allg. Zeits.*, Bd. 64, H. i.) Hermann, N.

Dr. Hermann observes that while passions, such as anguish, distress and terror in some cases prepare the way for mental derangement by weakening the nervous system, in others these emotions become the immediate causes of insanity, especially with individuals predisposed by hereditary degeneration. The unhappy condition of Russia, owing to the Japanese war, famine, and the political disorders and massacres, has thrown the whole population into a state of uncertainty and fear. Amongst the soldiers who took part in the war a peculiar form of insanity has been described, in which depression, stupor, and mental confusion were prominent symptoms. These were occasionally attended by incoherent delusions, ideas of persecution, and self-accusations. In addition to these affections amongst the soldiers, Rybakow has described twelve cases of insanity in the civil population which seemed to be caused by painful political events. Almost all of these exhibited the same form—great distress, restlessness, delusions of persecution, and, in most cases, illusions of the senses of a distressing character. Dr. Hermann, Superintendent of the Government Asylum at Orel, now contributes seven cases, occurring in the civil population, with similar symptoms. He has especially excluded patients in which there was an abuse of alcohol. In the cases described by him, the period of incubation was not marked, and only lasted one or two days. In some, the mental derangement followed immediately after the shock. Besides the extreme mental depression, most of the patients had hallucinations of sight and hearing, often of a distressing nature. They heard threats that someone would kill them; they heard the sobbing of people who had been thrown into the fire; loud noises, and voices of enchanters. They saw people thrown into a fiery furnace; they saw witches, and one saw Satan floating in the air above him. They saw mobs of people coming out of the earth. One patient had an hallucination of smell, which gave him much annoyance. While the mental condition in all these patients was one of overpowering distress, there was no self-accusation. The delusions were not of a systematised character, nor directed against special persons, but indicated a condition of general alarm and misery. The prognosis in this form of insanity was found to be good, and the duration of the attack was short. Out of Hermann's patients, four recovered soon, two were in the way of recovery, and the seventh was uncertain.

WILLIAM W. IRELAND.

The Mental State in Chorea and Choreiform Affections. (*Journ. Nerv. and Ment. Dis.*, June, 1908.) Burr, C. W.

Professor Burr, in his Presidential Address to the American Neurological Association on this subject, regrets that the word "chorea" cannot

be dropped from use, because it covers so many diverse conditions. Thus it includes not only the acute chorea of childhood, but also Huntington's chorea (which has as its characteristics, heredity and its onset in middle life), hysterical chorea, pre- and post-hemiplegic or apoplectic chorea, congenital chorea, chronic non-hereditary chorea coming on in middle life, habit spasm, and even generalised tic.

He treats mainly of Sydenham's chorea, but refers to some of the other forms. Sydenham's chorea he regards as an entity as defined as typhoid fever or pneumonia, and probably having a specific exciting cause. Huntington's chorea, chronic non-hereditary chorea coming on in middle life, and the chronic chorea of childhood ending in imbecility of greater or lesser degree, he believes have much in common.

Although patients suffering from even mild attacks of Sydenham's chorea show peevishness, fretfulness, some loss of the power of fixed attention and increased selfishness, he thinks it is untrue to state, as do some text-books, that every case presents mental symptoms of such moment as to raise doubts of the patient's sanity. Patients in whom the motor disturbance is very slight rarely if ever present serious mental symptoms, but he has found that the converse does not hold good. As far as the mental symptoms are concerned he divides his cases into four groups: First (and this includes a large majority) patients in whom there is peevishness, fretfulness, some loss of the power of fixing the attention, and a slight loss of the moral sense shown by disobedience and selfishness. Second, those showing, in addition to the above symptoms, night-terrors and transitory visual, auditory, or other hallucinations. Patients belonging to both these groups almost always recover mentally and bodily. Third, those with distinct delirium, wild or mild, accompanied with fever. These patients frequently die. Fourth—and this group is very small—those showing stupor, or rather stupidity and an acute dementia, which may follow the condition described under three, or appear without any preceding mental symptoms at all severe, and which is usually accompanied with trouble in articulation not caused by choreic movements of the lips and tongue, but the result of mental hebetude. Fever is usually present for a time, at least, and the patients in this group generally die, or, recovering from the chorea, remain demented.

The author then proceeds to detail illustrative cases. He does not believe that serious mental perturbation is part of the disease of chorea, but that it is a secondary result owing to the patient's inability to stand strain. He boldly asserts that there is no such disease as "chorea insaniens," but only insanity occurring in chorea, thus differing from some other writers, including Osler, who says "chorea insaniens is truly a terrible disease, and may develop out of the ordinary form." Sydenham's chorea, Burr says, may occasionally occur in the aged, but more frequently than true chorea in old people is the appearance of localised choreic movements caused by focal brain disease. In contrast to Sydenham's, in Huntington's chorea mental symptoms ending in dementia are an essential factor of the disease.

In conclusion, the author describes a case of paresis in a woman who had marked choreiform movements simulating Huntington's chorea,

and points out that the diagnosis of such a case must rest on the physical signs, the mode of onset and the grandiose state.

A. W. WILCOX.

6. Pathology of Insanity.

The Several Forms of Lacunar Lesions of the Nervous System in Mental Diseases [Le Varie Forme de Lesioni Lacunari del Sistema Nervosa nelle Malattie Mentali]. (Ann. di Nevrol., Fasc. i-ii, 1907.) Sciuti, M.

This experimental and anatomico-pathological research consists of an investigation of ninety-five brains of subjects of mental disease. The author has found the following lacunar lesions :

(1) Lacunæ which are the result of disintegration. They are frequent in senile dementia. The clinical signs are those of a grave dementia no longer progressive. The lacunæ of disintegration have cavities with notched margins—irregular walls of a greyish-rose colour; the spaces are filled with a gelatinous liquid. These lacunæ are more frequently situated in the lenticular nucleus than in the caudate, and are less frequently found in the centrum ovale, in the corpus callosum, etc. There may be several spaces in the same brain. Examined histologically, other cavities of lesser dimensions are noticed in the large cavity. The walls of the cavity are formed of gelatinous tissue rich in hyperplastic glia cells, which have a large nucleus. A vessel is always found within the cavity, permeable, and with a notable chronic patency. The lymphatic sheath in some parts is withdrawn from the vessel, while in other parts it shows adhesion to the adventitia. When the lesion is recent the tissue is rich in granular cells. The adhesion of the sheath to the vessel is the cause of disintegration of the surrounding tissue by the obstructed passage of lymph, and resulting circumscribed œdema. The chronic encephalitis which results from this process causes death of the tissue. This encephalitis, according to the author, is a secondary and not a primary process. The lacunæ of disintegration may be regarded as anatomico-pathological entities, but not as clinical entities. In the greater number of cases, the clinical symptoms shown do not differ from those of other lesions, such as hæmorrhages and limited softenings, localised in the lenticular nucleus or in another nucleus of the base.

(2) Dilatations of the lymphatic spaces of the arteries are found in the lowest portion of the basal nuclei. The dilated lymphatic spaces have smooth walls and clear margins, and an artery may be observed within them. The surrounding nervous tissue is not altered. They depend upon lymphatic stasis.

(3) Sieve-like conditions (*états criblés*) are found in epileptics, general paralytics and senile dement. These conditions are most frequent in the convolutions of the insula, and in the *polus temporalis*. They consist of dilatations of the lymphatic spaces of the small arteries in the white substance, and they are also the result of lymphatic stasis.

(4) Dilatation of the lymphatic paths proper of the nervous system is produced by grave cerebral œdema, and is frequently found in

epileptics dying in the epileptic condition. Such lesions show themselves under the form of little round cavities, filled with a homogeneous substance scattered about the brain and sometimes in the medulla, as much in the white substance as in the grey, but predominating in the former. They do not show micro-organisms in their midst. They are accompanied by dilatation of the vascular and peri-vascular spaces, and by grave lesions of the nerve-cells. In some cases, the margins of the small cavities are torn, and the surrounding tissue to a very small extent is disintegrated, the cavities being signs of a notable increase in the lymph pressure.

(5) The status cribosus of Vassale is frequent in general paralysis, and in all conditions of wasting of the nervous substance. It consists of degeneration of the myeline sheath of the large nerve-fibres. It is easily found in the pons, and is in the form of small microscopical cavities filled with a hyaline material, in which the axis cylinder of the nerve is found tortuous and altered. To differentiate it from the *état criblé* of Durand-Fardel, the author proposes to call this condition "the punctiform state."

(6) The worm-eaten condition is found in senile dementia only, and then not very frequently. It shows itself as ulcerations in the form of yellow plaques of the grey substance only, and consists in a limited softening of small tracts of the cortex, as a result of sclerosis of the capillaries. It is followed by an active proliferation of the neuroglia, which encloses in its margin the small cavities.

(7) The porous states are the result of *post-mortem* change. They occur in the form of numerous cavities scattered through the whole of the white substance of the cerebrum and cerebellum. They show great variety in size, and are found from the size of a grain of millet to that of a bean. The walls are smooth and white in colour, with margins quite devoid of any membranous covering. The surrounding nervous tissue presents only cadaveric lesions. The walls of the cavities and those of the perivascular spaces are filled with micro-organisms capable of producing gas. The abundant gaseous productions are not able to open a way to the exterior, owing to the resistance of the more superficial strata, and they therefore putrefy with greater delay than the other portions of the brain. The gaseous tension is exercised on the point where these gases originate. It presses on the tissue from within, and thus gives rise to the porous cavities. The extent of the lesions, and, during life, the absence of any signs showing porosities, also the ease with which these cavities are experimentally produced, convey an idea that they are of a cadaveric nature.

HAMILTON C. MARR.

The Neuroglia in General Paralysis [La Neuroglie dans la Générale].
(*Soc. Clin. Med. Ment.*, June, 1908.) Dagonet, M.

Dagonet (the author of the *Atlas* published by Baillière, 1897) considers that the neuroglia, owing to its ectoblastic origin, does not become sclerosed as the connective tissue does, but that in general paralytics it hypertrophies and then proliferates, filling up the lacunæ produced by the destruction of the nerve-cells and fibres.

He does not agree with Weigert that the neuroglia is composed of cells and of separate fibres, but considers that the latter are, in fact,

only part of the former. These neuroglial cells show many forms; some are round without any protoplasmic prolongations or fibres, whilst others show either or both. In a section of the cerebral surface of a general paralytic one notices a thickness of the neuroglial bed beneath the membranes, formed by entangled fibres and little star-like cells which invade the molecular stratum. These fibres are thick and rigid, and when they attain the size of 1μ to 1.5μ they are said to be hypertrophied. In the stratum of the smaller nerve-cells these neuroglial fibres disappear, or, at least, Weigert's method does not stain them, but they exist in small numbers.

In the deeper strata, however, the hypertrophy and proliferation of the neuroglial fibres is remarkable. The cells have a large amount of protoplasm, often two nuclei and very long prolongations, which become attached to the sheath of the vessels. These are the spider cells, and this sclerosis of the neuroglia is called perivascular.

The larger spider cells, the so-called monster cells, have nuclei which attain the size of 8μ , and their prolongations, having a thickness of 4μ , appear to be of a horny nature. One sees numbers of these in the neighbourhood of the third ventricle. In the white substance one does not find these spider cells but many Deiter's cells. In the cerebellum there is no neuroglial bed under the pia mater as seen in the cerebrum. The neuroglial fibres are firm, thickened, and one sees them equally in the bed of the granular layer, which in the normal state is not so. In the medulla these neuroglial fibres form an excessive felting around the nerve-cells, and one will notice their unequal distribution in the white matter or in the myelitic foci, and the fasciculated lesions are very frequent, as Westphal has shown.

As regards the granulations on the surface of the ventricles, they are thickened tufts of neuroglial fibres which project into the spaces of the cavities. Weigert says that the ependymal epithelium is wanting at the summit of these granulations, and that this is the primary reason of the lesion, for there is a suppression of the resistance of the ependymal tissue, and the neuroglial mass beneath it, being no longer held in check, proliferates. The author does not agree with this statement, for he can demonstrate slides showing that the granulations are covered with the epithelium of the ependyma, and even some of the ependymal fibres seem to play a part in the formation of these nodules.

These ependymal fibres, seen in the embryonic state, disappear in the normal adult, but reappear in the general paralytic.

SIDNEY CLARKE.

Staining of Blood Films.

To those working on the blood in the insane the following may be of some value, since Leishman's stain is so frequently used.

Colonel Birt, at the Pathological Section of the Royal Society of Medicine (as reported in the *Brit. Med. Journ.*, Nov. 7th, 1908), exhibited blood-films stained with Leishman's fluid, to which an equal volume of glycerine had been added nearly two years previously. Ordinary Leishman's fluid, he observed, underwent deterioration after the lapse of a few weeks, sometimes so great that the nuclei of leucocytes remained colourless. A satisfactory stable staining solution might also

be prepared by making a saturated solution of Leishman's crystals in methylated spirit, and adding an equal volume of glycerine. These fluids, to which glycerine had been added, were used in the same way as Giemsa's stain. Films must be fixed in alcohol, and a few drops of the fluid mixed with about 3 c.cm. of water applied to the slide for half an hour. There was an almost total absence of deposit in the stained preparation.

SIDNEY CLARKE.

On the Morphology and Biology of the Granular Cells [*Über Morphologie und Biologie der Körnchenzellen*]. (*Allg. Zeits. f. Psychiat.*, Bd. 64, Heft. 2.) Merzbacher.

Dr. Merzbacher, of Tübingen, made a demonstration of these structures at the German Association for Psychiatry, held at Frankfurt on April 26th, 1907. What he calls "abräumzellen" are assumed to take an active part in the decomposition of nervous elements. They present a great variety of forms. The cells of the walls of the vessels, the fibro-blasts, the blood cells, and especially the cells of the neuroglia go to produce the abräum-cells. They are found in acute processes and in dissolution of the nervous tissues, and play a great part in the processes of repair. In the embryo, the appearance of granular cells has been considered to be an indication of encephalitis neonatorum. After a prolonged study of these corpuscles in the embryos of many animals, Merzbacher has arrived at the conclusion that they are not the accompaniments of a pathological process, but serve in the building up of the nervous tissues.

WILLIAM W. IRELAND.

The Study of the Normal and Pathological Structure of the Nervous System. New Methods of Microscopic Investigation [*Per lo Studio della Struttura normale e patologica del Sistema Nervoso. Nuovi Metodi di Indagine Microscopica*]. (*Riv. di Patol. Nerv. e Ment.*, vol. xiii, fasc. 7.) Fichera, G.

The author of this paper gives an elaborate and interesting classification of the several methods of preparation in use for the study of the histological appearances of the nervous system, according as such methods are required to bring out the form, contour, and inner structure of the neurone, the nerve-fibres, neuroglia, etc. He points out that it is, of course, impossible to get by the same method a picture of the several histological findings in the nervous system. It is for this reason that he brings forward two methods, by means of which he asserts the results sought for are obtained.

Method Number 1.—(1) Fix pieces of tissue in chromic acid, or salts of the same, such as Marchi's liquid or Fleming's solution; (2) embed in paraffin; (3) colour with gentian violet (formula of Bizzozero): absol. alcohol, 1 grm.; aniline oil, 15 c.cm.; aq. destillata, 80 c.cm.

After this coloration the sections are immersed in alcohol until they no longer lose colour. They are then passed into the second colouring alcoholic solution of erythrosin, *viz.*, erythrosin, 3 grm.; alcohol, 90 *per cent.*, 100 c.cm.

The sections are left in this solution from one to two minutes, and are then immersed from thirty to forty seconds in alcohol slightly acidulated with hydrochloric acid, until a slight discoloration of the

erythrosin takes place, and the sections assume a brilliant rose colour. They are then cleared, and may be mounted in the ordinary way.

By this method the nuclei of the nerve-cells, ependymal cells, neuroglial cells, of Schwann's sheath, of the vessel-walls, of the leucocytes and of the connective-tissue cells are coloured with gentian violet. The erythrosin colours the protoplasm of the neuroglial fibres, the axis cylinder processes, the sheath of Schwann and the fibrous connective tissue. The medullary sheath is coloured yellow with chromic acid or its salts. Degenerated myelin sheaths, fat cells and coarse granules colour black through the agency of osmic acid.

Method Number 2.—Fix and embed as in Method Number 1. Colour with hæmatein Geigy: hæmatein Geigy, 1 grm.; alcohol, 90 per cent., 10 c.cm.; aq. destillata, 100 c.cm.

After colouring, immerse the sections in aqueous solution of acid fuchsin, viz., acid fuchsin, 1 grm.; aqua destillata, 500 c.cm., for one minute; then leave in phosphomolybdic acid, 1 per cent., for about ten minutes, and until the sections no longer give off fuchsin.

It is expedient during this discoloration to renew the phosphomolybdic solution at least once, and whenever it gets tainted by fuchsin from the sections.

Colour with alcoholic solution of orange: orange, 3 grm.; alcohol, 90 per cent., 100 c.cm.

After this the sections are passed rapidly into vessels containing ordinary alcohol. In the first passage the pieces leave orange in excess. Indeed, it is not necessary to prolong their stay in alcohol, because an intense discoloration will ensue.

This method has been employed in the study of regeneration of the peripheral nerve-fibres, of alterations of the nerve-trunks from injuries, slow and contracted compression through exostoses, through bony growths, and through tumours. In every case the nuclei of Schwann's sheath, of the vessel walls, of leucocytes, of connective-tissue cells, remain coloured with hæmatein. Schwann's sheath and connective fibrillæ appear red owing to the action of fuchsin. The myelin sheath is yellow from the orange. Degenerate myelin fat-cells and fat-granules show a black colour due to osmic acid.

HAMILTON C. MARR.

7. Physiological Chemistry.

The Internal Secretion of the Ovary (the Yellow Body and the Interstitial Gland) [*La Sécrétion Interne de l'Ovaire (le Corps Jaune et la Glande Interstitielle)*]. (*Gaz. des Hôp.*, Nos. 31 and 34, 1908.) Alamartine, Hughes M.

Brown Séquard first suggested the existence of an internal secretion of the ovary. He considered its existence as the only means of explaining the results following ovarian castration. Since then physiologists have attempted to determine the chemistry, nature and function of this secretion. Histological and physiological inquiries have resulted in locating the yellow body and the interstitial cells as the origins of the secretion. In this general review, Alamartine discusses the effects of ovarian castration, the properties of ovarian juice, the results of opera-

tive procedure, including ovarian grafting, and the rôles of the yellow body and the interstitial glands. The association of several glands and the ovary is also pointed out: thus the thyroid gland and the ovary have antagonistic functions. The thymus and supra-renal glands have a purifying action on the general system, similar to that which the ovarian secretion has. The connection of the ovary and the hypophysis is known. Hypertrophy and abnormal vascularisation of the gland at the moment of menstruation and in the course of pregnancy are undisputed facts in evidence.

The conclusions reached in Alamartine's review are that the two functions of the ovary are sexual and antitoxic. The ovarian secretion fulfils a purifying function in the organism by fixing, transforming or destroying soluble poisonous products, which are passed into the blood from the bodily organs, and are carried to the ovaries by the arterial system. The toxins elaborated by the ovaries are transformed into useful products. Some are excreted with the ovules and are utilised for sexual reproduction; others are re-absorbed by the organism, and under the form of internal secretions act on the uterus by preparing the mucous membrane for pregnancy, and ensuring the development of the embryo, and on the entire organism in the production of the phenomena of rut, and in the secondary sexual phenomena. An extensive bibliography concludes the article.

HAMILTON C. MARR.

8. Treatment of Insanity.

Should Alcohol be Administered to Patients Suffering from Delirium Tremens? [Faut-il donner de l'Alcool aux Délirants Alcooliques?]. (Journ. de Méd. de Bordeaux, July 26th, 1908.) Régis, E.

The administration of alcohol to patients suffering from delirium tremens is still a vexed question of practice. Talented arguments, supported by an appeal to facts, are used on both sides. In general, says the writer, those who defend or urge the use of alcohol in these cases are the men engaged in general hospital work and in private practice; whilst those who condemn its administration are alienists and superintendents of asylums. Régis himself has long opposed the use of alcohol in cases of alcoholic delirium, and has applied this principle in practice; he now publishes the results of five years' experience in this connection at the Hôpital Saint-André. He considers these results of especial value because in this institution the patients under his care suffering from delirium tremens have been specially centralised, studied, and treated, with complete and rigorous observation in each individual case.

The number of alcoholics received as in-patients at Saint-André during the period under consideration was 157; of these 73 were suffering from chronic alcoholism without delirium, whilst 84 were affected with acute or subacute alcoholic delirium. Of these 84, 75 were men and 9 women; 75 of the cases were uncomplicated, 9 complicated with trauma or with some acute infective disorder—in most cases pneumonia. To none of these patients was alcohol administered in any form whatever.

What were the results of treatment? Complete recovery with the exception of three cases, which proved fatal. One of the three died from accident, having succeeded in jumping out of a window; the other two, suffering from acute febrile alcoholic delirium, were in a very grave condition on admission, and died suddenly during the night. Even if the accidental death be included we get from these statistics the remarkably favourable percentage of recoveries of 96.43. It is noteworthy that the two patients dying directly in consequence of delirium tremens were not affected by any complication. The nine patients suffering from complications, including all those with pneumonia, recovered, although alcohol was entirely withheld. It is difficult, remarks Régis, to speak definitely regarding the duration of an attack of delirium tremens, since neither the beginning nor the end of the attack is always definite and sudden; but he considers that in the cases under consideration the cure was speedy.

Apart from the negative element in the treatment, the withholding of alcohol, the measures employed were as follows: Food was administered at very brief intervals during the acute stage; some of the patients were isolated, others not; frequent purgation; diuretics; abundant fluid per os; 30 to 45 gr. each of chloral and bromide of potassium *per diem*. The principle underlying this simple mode of treatment is to favour in every possible way elimination by the liver, the kidneys, and the bowel.

In justification of the eliminative treatment Régis refers to the work of Klippel as to the part played by the liver in the production of delirium tremens. He also states that, in conjunction with Galtier, he has himself proved that in all the toxic psychoses, but above all in alcoholic delirium, increase in the violence of the delirium is associated with a diminution in the excretion of urine, and *vice-versâ*. At the height of the attack as little urine may be passed in a day as 10 ounces; when convalescence begins the discharge of urine becomes very free, and may amount to 100 ounces or more *per diem*. During the height of the delirium, also, Galtier has found that the urine contains an excess of skatol, indican, urobilin, sugar, and albumen; at the same time there is a retention within the system of urea, chlorides, and phosphates; the cessation of delirium is marked by a very free discharge of the last-named substances. Alcoholic delirium, therefore, in common with other forms of toxic delirium, must be regarded as an autotoxic psychosis, the immediate cause of which is a failure of elimination. Hence the rationale of the treatment advised.

In conclusion Régis criticises his own results. They show, he says, that it is not *necessary* to give alcohol to patients suffering from delirium tremens, and he elaborates the theoretical reasons against its administration in these cases. But, he goes on to say, it is possible to assert that even the two patients who died might have recovered if they had been given alcohol. He cannot himself speak positively as to the effects of alcohol in such cases, as he has never prescribed it. To settle the question to his own satisfaction he now proposes to make a control experiment by the administration of alcohol in a sufficiently large number of cases of alcoholic delirium. To some he will give medicinal doses of alcohol as the only means of treatment, beyond feed-

ing and ordinary care for the safety of the patient. To the others he will give alcohol as a supplement to the eliminative treatment previously described. He hopes in this way to obtain scientific proof as to whether alcohol is beneficial, harmful, or indifferent in the treatment of delirium tremens. We shall await with interest the report on his second series of cases.

M. EDEN PAUL.

About "Abstinence" Delirium [Zur Frage von den Abstinenzdelirien]. (Psych.-Neur. Wochens., Nos. 14-17, 1908.) Holitscher.

An article by Dr. P. H. Horsh, which appeared in the *Munch. med. Woch.* (No. 44, 1907), entitled "Delirium Tremens after Deprivation of Alcohol," caused Dr. Holitscher to go fully into the question. In this contribution he gives the results of his investigations.

Dr. Horsh is of opinion that this form of delirium is due to the deprivation of alcohol, and states that this is a fact accepted by most authors. He comes to the conclusion that prophylactic treatment is necessary. To disprove this statement, Dr. Holitscher gives the replies of 62 superintendents of institutions in Germany, Austria and Switzerland to questions put by him regarding "abstinence" delirium, its cause and the use of preventive treatment.

Of 15 clinics, in 4 only were cases—not always certain ones—remarked. Of 37 asylum superintendents, 3 had had no experience of alcoholic cases, and could not reply, 30 had never encountered cases of "abstinence" delirium, and of the other 4, only 1 answered unconditionally that he had met with cases. The most important replies come from Homes for Inebriates. Ten of these give the following facts :

	Number of inmates.	Cases of "abstinence" delirium observed.
(1)	650	0
(2)	251	0
(3)	1273	3
(4)	320	0
(5)	255	1 (an epileptic)
(6)	74	1
(7)	130	3
(8)	750 admissions in 2 years	8
(9)	100 admissions per year	Several
(10)	Not stated	0

Numbers 8 and 9 are doubtful as to the cause of the delirium.

One superintendent observed three cases outside the institution.

With respect to the causation of the delirium it is stated that alcoholics just on the borderland of delirium have sometimes characteristic attacks when deprived of drink. The question is whether these attacks would have been more severe, or would have taken place at a later time, had the habit not been stopped. The attacks are generally very mild.

According to Forel, "abstinence" delirium is nothing more than an outbreak of delirium already in preparation, and in certain cases where sudden abstinence comes too late to prevent the course of the disease.

Dr. Dollken explains the theory of *delirium e potu intermisso* by

saying that in some cases a distaste for alcohol is a prodromal symptom, and a state that may last five or six days, and also as long as a fortnight. After this period there is an attack of delirium, but he does not think that abstinence is the cause of it.

Such authorities as Bonhoeffer, Näcke, Kraepelin, Delbruck and Ganser are quoted. Those of them who have experienced cases of delirium after deprivation of alcohol are doubtful as to whether abstinence alone is the cause. Ziehen states that it is often accompanied by an infection, an auto-toxication or inanition, which may be caused by abstinence. Other authorities say that the delirium occurs generally in conjunction with another factor, *e.g.*, injury, bodily illness, confinement to bed, alteration in mode of living, imprisonment, etc.

All who were consulted agreed that in the treatment of alcoholism, unlike that of the drug habit, total abstinence should be immediately forced on the patients. One superintendent goes so far as to say that since this course was adopted the death-rate from delirium in his institution has decreased, and Dr. Ganser has had by this means good results in 1,200 cases of delirium.

HAMILTON C. MARR.

Chances of Recovery in Asylums [*Die Heilungsaussichten in der Innenanstalt*]. (*Neur. Cbl.*, No. 15, 1908.) Alt.

Prof. Alt, in this his lecture at the annual meeting of the Deutscher Psychiatrischer Verein, proves, from twenty years' experience of asylum work, that where recovery from mental disease is possible, the surest and quickest method of bringing about a cure is the opportune and early admission of the patient to an institution for such cases. A description of different forms of mental disease is given, and Prof. Alt shows his experience of the effect of asylum treatment in the various forms. He does not agree with Dr. Schotz, director of a new institution in the province of Posen, who takes a pessimistic view of asylum treatment. Dr. Schotz does not think that early admission benefits in any way, and that once mental disease has set in therapeutic treatment cannot help. A doctor in a public position, and one to whom the treatment of patients and the therapeutic training of medical officers is entrusted, who denounces this treatment as quite worthless, undermining the confidence of public and patients in the power of medicine, and discouraging the efforts of his fellow workers, deserves Prof. Alt's scathing criticism.

HAMILTON C. MARR.

Contribution to the Case Literature of Polyneurotic Psychosis [*Zur Kasuistik der polyneuritischen Psychose*]. (*Arch. f. Psych. u. Nervenkrankh.*, xliii, 1908, Ref. G. Ilberg, *Neur. Cbl.*, No. 15, 1908.) Lapinsky, M.

Five new cases of polyneurotic psychosis are described. In two of the cases the psychosis was developed in childhood; in the other three, after parametritis, influenza, and intestinal catarrh. Addiction to alcohol was not noted. In some of the cases peripheral disease of the nerves occurred at the same time as the psychosis; in the others the former some time after the latter. Polyneuritis cannot be looked upon as causing the psychosis; on the contrary, both affections are the

result of one and the same cause—poisoning of the organism by micro-organisms and their products of disintegration. The author has several times noted in his patients irregularities in their stereognostic determining of objects by using the sense of touch, and in their ability to estimate stereoscopically the distance and the size of objects. Anomalies must, therefore, be present, both in the upper and in the lower parts of the parietal region.

HAMILTON C. MARR.

9. Sociology.

Procreation during Intoxication [*Die Zengung im Rausche*]. (*Neurolog. Cbl.*, No. 2, 1908.) Näcke, P.

Näcke has given expression to his scepticism with regard to the evil results of procreation during a state of intoxication, and subjects to severe criticism the statement of such a connection. After touching on the difficulty of defining what is meant by "intoxication," and the further difficulty with regard to ascertaining the fact of conception in that state, and eliminating other possible acts of intercourse, Näcke states that no case is usually taken to exclude the existence of slight degenerative conditions (inborn, latent, or acquired) in the man or the woman which might be the real operative cause. Still less is any evidence offered, either of microscopic or micro-chemical nature, as to the toxic nature of the semen. Näcke would be glad to hear from any alienist or neurologist of a single case of this kind which would bear critical investigation. At present he is not acquainted with one case, either in his own experience or that of others, in which injury to the offspring was conclusively traced to the intoxication of a parent at conception. He by no means denies the possibility of such a connection, but asserts the extreme difficulty of proving it, and its probably great rarity.

HAVELOCK ELLIS.

New Anthropographometric Method [*Nouvelle méthode anthropométrique*]. (*Journ. de Méd.*, No. 18, 1908.) Crouzel, Ed.

The author confirms the well-known anatomical fact that nothing is more variable than the disposition of the dorsal veins of the hand. Further, he states, as the result of investigation, that the venous disposition varies in the right and left hands of each person. On this latter phenomenon he bases his new anthropographometric method. The use of this method is important for purposes of identification, especially of criminals. The method takes cognisance of the disposition, distribution, and calibre of the veins. It is carried out in this way: The hand is plunged into cold water for about two minutes. The first constricting effect is followed by dilatation. This dilatation may be avoided by compressing the wrist firmly with an Esmarch bandage. The arm is swung downwards, and a photograph of the hand is taken. When the photograph is completed it is covered with a sheet of transparent paper ruled vertically and horizontally, the spaces between the lines being one-third of a centimètre square. The lines are numbered on the extreme left of the transparent paper, from above downwards, 1

to 40, and at the top, from left to right, 1 to 26. If intersection of veins takes place beneath, say, the horizontal line 33 at its intersection with the vertical line 8, the formula is written $33 + 8$, and so with each point of intersection of veins ascending in the photograph from left to right. When this is completed, the numbers in the first set of formulæ are added together, where they are in the same horizontal line; thus, if two intersections occur in the horizontal line 33, these two are added together, and in this way $33 + 8$, $33 + 11$ in the first formula appears as 85 in the second formula. Thirdly, all the numbers of the second formula are added together to make a total sum. Individual formulæ made up in the above-noted three divisions, when compared, show at once the difference in the disposition of the vessels in the several persons.

HAMILTON C. MARR.

Alcoholic Insanity in the Turin Asylum during the Period 1903-1905
[*La Frenesi Alcoolica nel Manicomio di Torino nel Triennio 1903-1905*]. (*Ann. di Freniat.*, vol. xviii, fasc. i, March, 1908.)
Margarita.

This brief statistical note is interesting chiefly as showing the extent to which alcoholism has developed in those parts of Italy where modern industrial conditions have become established in the last few years. During the period to which the figures refer the number of cases of alcoholic insanity admitted into the Turin Asylum amounted to 207—182 in men and 25 in women. The total number of patients received during the same period was 2,001 (the author does not mention the sexual distribution), so that the *ratio* of alcoholic insanity works out at 10.34 *per cent*. No figures are given with regard to occupation, but the author remarks on the predominance of factory operatives, liquor-sellers and beggars amongst the alcoholic patients; agricultural labourers were strikingly few. As regards age, the period of maximum incidence in alcoholic cases was found to be between 35 and 45 in men, while in women, on the other hand, in the majority of instances the patients were under 40. Morselli is quoted as attributing the earlier occurrence of alcoholism in women to the influence of prostitution. In discussing the clinical varieties met with, the author adopts the system of classification suggested by the Italian Società Freniatrica, which recognises four categories, *viz.*: (1) Delirium tremens; (2) acute forms (confusional, etc.); (3) chronic delusional forms; and (4) chronic paretic cases. The author does not accept, however, the reality of an alcoholic general paralysis distinct from other forms of that disease, so that no cases appear in the last-named group. And as cases of delirium tremens are generally dealt with in general hospitals, the first category of alcoholic insanities is also unrepresented. The cases are accordingly distributed between the confusional and the chronic delusional groups, 89 being assigned to the former and 116 to the latter.

W. C. SULLIVAN.

On So-called Moral Insanity and its Medico-legal Significance [*Über die sogenannte moral insanity und ihre forensische Bedeutung*] (*Psych. Neur. Wochens.*, No. 26, September 19th, 1908.) Berze.

This is a summary of a paper read in December, 1907, at the Austrian Kriminalistische Vereinigung and published *in extenso* in Gross's

Archiv für Kriminalanthropologie (vol. xxx). The author starts from the question whether it is possible to differentiate in the general mass of criminals those individuals who suffer from true moral insanity and who ought to benefit by such indulgence as is accorded by the law, to offenders who are mentally diseased. He considers that the problem may be approached in two ways, *viz.*, either by seeking to determine whether in any given case there exists a defect in moral feeling, or on the other hand by directing attention solely to the force of the "intellectual inhibitions" (die intellektuellen Hemmungen.) To proceed by the first way it would be necessary to have some means for fixing the limits of the physiological variation in moral feeling, and no such means are available. There are no direct tests for establishing the pathological character of a defect of moral sensibility; and such indirect evidence as has been suggested, *e.g.*, the detection of co-existing intellectual debility, or of signs of defective physical development, a personal history of precocity in vice, or a family history of nervous taint, and so forth, is necessarily of very doubtful significance, and may—in fact, frequently does—lead competent experts to the most divergent conclusions. On the other hand, the author seems to hold that what he terms the "intellectual moral factors" in the conduct of a criminal are more easily investigated. This part of the paper is very much condensed, but the author indicates that the aim of the medico-legal inquiry should be to ascertain first whether the individual's knowledge of the legal quality of his action is, or is not, defective through any morbid condition, and further whether at the time of the act his power of regulating his conduct in accordance with that knowledge was, or was not, impaired by disease. The author does not make it clear how we are to arrive with the scientific accuracy which he desiderates at this reconstruction of the offender's mental state. The paper is, perhaps, chiefly valuable as a fresh example of the futility of trying to give a psychological meaning to the purely social conception of responsibility.

W. C. SULLIVAN.

The Question of Racial Degeneration [Zur Entartungsfrage]. (*Zentralbl. f. Nervenheilk. u. Psychiat.*, Oct., 1908.) Kraepelin, E.

One of the most disquieting phenomena of modern times is the steady increase in the number of individuals requiring asylum treatment. Does this indicate an actual increase of insanity, or is it merely to be ascribed to such factors as an earlier recognition of insanity, better care of the insane, ease of entry into asylums, and greater difficulty in keeping insane relatives at home under the stress of modern life? Unfortunately, the available statistics are not sufficient to answer this question, but certain factors may be suggested which are probably causes of racial degeneration.

Travellers agree that insanity is rare amongst uncivilised peoples, but these reports are not altogether trustworthy. A better result is obtained if one considers merely the incidence of particular mental diseases in various races. Owing to the lack of agreement concerning nomenclature, however, practically only general paralysis and alcoholism can be so treated. The observations of the author and others indicate that these diseases are of comparatively rare occurrence amongst uncivilised

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racés. The statistics of Berlin and Munich show that insanity is far more frequent in the town than in the country, and that this is mainly due to the greater incidence of general paralysis and alcoholism. It would appear, therefore, that the large town provides a favourable soil for the development of these diseases. Alcohol may exert a noxious effect upon the developing germ, as also does syphilis. Our increased care for the outcast tends to prevent the natural weeding out of these degenerate offspring.

There are various influences dependent upon the conditions of modern civilisation which tend to injure our mental health. Thus the great increase of duties and responsibilities owing to the growing complexity of the social machine tends to morbid volitional conditions, doubts, phobias, and "grübel-sucht." It is noteworthy that ideas of self-reproach and self-accusation, so common a symptom in our insanities, are very rare in primitive peoples. Again, the division of labour of a modern state tends to make the individual unduly dependent upon his fellows, and he therefore compares unfavourably with less civilised mankind in sturdy independence and resource. Amongst other factors may be mentioned the lack of hygiene due to the poverty of the lower classes in large towns, and a system of education which devotes itself mainly to pushing the intellectual faculties, while neglecting the volitional, and the requirements of the body.

Lastly, the artificial conditions of modern life tend to divert and distort natural tendencies. We eat when we are not hungry, turn night into day, and hamper the reproductive instincts with restrictions of all kinds.

All these questions are of vital importance for the race, and it is urgently necessary that their precise influence should be determined by properly conducted research. Such research can only be made efficient by calling in the help of the State.

BERNARD HART.

Escapes [Sur les Évasions des Aliénés]. (A Thesis.) Collett, Geo.

In view of the public outcry against "escapes" from asylums, it is interesting to learn what happens elsewhere.

The particulars relate to those residing at the asylum at Vacluse, and are remarkable for the extraordinary numbers. There were 136 patients who made 94 escapes and 103 attempts to escape during five years, and this occurred in an asylum whose average yearly number was 721!

The following table gives a good summary :

Year.	No. under Treatment.	Total escapes and attempts.	Attempts.	Escapes.
1901	758	51	23	28
1902	784	35	16	19
1903	638	19	11	8
1904	738	52	33	19
1905	688	40	20	20
Total for the five years	3,606	197	103	94

Thus it is seen that 3·7 *per cent.* of the patients attempted or succeeded in getting away.

During the hours of the day 71 escapes and 83 attempts were recorded, whilst at night the numbers were 18 and 23 respectively.

It was from the quarters of the workers that most of these occurred, since the supervision was less in this section of the building, and there was a reasonable chance of success. As a rule the patients sought to get away during the first month of their detention. The great number of escapes did not have any serious consequences, thus necessitating no greater restriction, since they could have been prevented by a larger staff. The author, however, considers that it would be advisable if those cases which are known to be really dangerous to society were confined in a special asylum or kept under a special service.

A visit to this asylum would be instructive, so as to learn the amount of freedom given to the patients and also to see what kind of supervision was maintained.

SIDNEY CLARKE.

10. Asylum Reports.

(Continued from Vol. LIV, page 780.)

Some English County Asylums.

Cumberland and Westmoreland.—Dr. Farquharson has adopted the new tables, adding the optional Heredity Table. We venture to think that some day the Annual Meeting will add this to the other official requirements. And now that the table is designed to have an exclusive value this step should be welcomed. The need in former days only to record heredity, *when found*, produced a valueless heap of troublesome figures. But, of course, it would be necessary that each and every direct case should be examined and returned in the same way as ætiological factors are now treated, namely, as cases where there is absolute record and cases where there is no record, the latter being again divided into “no record after full examination” and “no record, because of there being no reliable history obtainable.” Dr. Farquharson is firmly of the opinion that alcohol is not such a prolific cause in his district as in others. He is, we think, wise in not using his experience to disprove the experience of all others, as is not infrequently the case. He does not account for the smaller proportion by saying, for instance, that others make too much of a symptom and so on, but he only assumes that his district differs from others in this respect.

Kent.—The reports of the two asylums in this county are now issued bound together. Both asylums have adopted the new tables, and, in consequence, the volume is substantial. It would be too much to hope that the two sets of tables should be worked together, as is done in the case of the London County asylums. But perhaps some enterprising spirit may take this in hand some day, as to the more important matters at all events. Whoever will do this will deserve well of psychiatry. It would, in any case, be a benefit in counties where there are more than one asylum if, somewhere in the report, the separate areas served by the respective asylums were set out, or, failing this, if the principles on

which patients were sent to one or other asylum were stated. There are points of difference in statistics which can only be explained by variations in the environments and class of the patients admitted.

Barming Heath.—Dr. Wolseley Lewis contributes to the report a valuable and instructive history of this old asylum, illustrated by a plan of the whole estate, which shows in various coloured inks the additions that have been made from time to time. The first dealing with the treatment of lunatics by the county authorities was in 1828, when plans were passed for the erection of an asylum. This was opened in 1833, having accommodation for 174 patients. The safe-keeping of inmates being the first consideration, the buildings were much on the lines of prisons. In 1840 better ideas began to prevail, and in 1844 Quarter Sessions reported against the improper practice of sending patients too late for the promotion of recovery. But in this year among other additions was a bath of surprise. The latter is instructive as illustrating the barbarous methods of treatment in those days. "It was reserved for the very violent patients, over whose head was placed a hood, and round whose waist a girdle with rope attached was fastened; they were then led by a side door to this bath of cold water, into which they unexpectedly plunged." Since that day improvement has gone on by degrees, till now Dr. Lewis can write that the last additions represent the latest ideas in asylum architecture. Alcohol does not seem to be a prolific factor of insanity, only 40 cases out of 387 having this marked up against them. Heredity occurs in a third, while senility and prolonged mental stress account each for about one-fifth of the admissions. General paralysis was found in 30 out of 194 men, while in only 1 case in 219 women. Melancholia, acute, was found in 32 and 82 cases respectively, and largely exceeded the acute mania cases—23 and 37. The general recovery-rate is 41 *per cent.* on comparison of direct admissions and direct recoveries.

Chartham.—Alcohol does not seem to be a more important factor than at Barming Heath. General paralysis occurred in a considerably smaller proportion, but the facts as to melancholia and mania were reversed, mania being found in 50 and melancholia in 35 out of 186 admissions. The recovery-rate was somewhat lower than at Barming Heath, but this can be probably accounted for to a large extent by the greater delay in the admission of recent cases. Of those brought within 3 months of falling ill, there were 57 *per cent.* of total admissions at Barming Heath, and only 41 *per cent.* at Chartham.

London County.

The rate of increase in the number of patients under the care of this authority on December 31st, 1907, shows a tendency to go upwards again, after three years of gradual decline. As is pointed out in the report, there is always a tendency for the opening of a new asylum to be followed by a rush of cases, which have been kept back on account of accommodation being deficient pending the opening. Long Grove was opened in June, 1907. Still, as matters stand now, there is great improvement over the figures of former years. We note that the direct

admissions were actually less by twenty-three in 1907 than in 1906. The committee think that they are justified, on the whole, in assuming that the rate of increase of insanity in their area is a decreasing one, and, as far as we can see, this is so. Therefore they are averse to building their eleventh asylum, for the present at all events. The Lunacy Commissioners have been pressing for this for some time past, but in addition to the fact mentioned above, the Committee have in view the possibility (now turned into a certainty by the issue of the Report of the Commission on the Feeble-minded) that unification of London lunacy administration would become probable. When this is carried out a considerable quantity of unused accommodation provided by the Metropolitan Asylums Board will be available. The Committee are further of opinion that a good deal has to be said about the certification and adjudication of pauper lunatics in relation to asylum accommodation. Until all these points are settled they propose to hold their hand.

The Report deals at some length with the really splendid offer of Dr. Maudsley in relation to a mental hospital. That offer has been already discussed in these pages.

In lamenting the large quantity of recurrent insanity, and the necessity, for legal reasons, of discharging those who are certain to come back again, the Committee hint at the urgent need for steps being taken "to reduce the alarming possibilities which now exist for the multiplication of degenerates by the unsound of both sexes."

The Statistical Tables of the London County Asylum.

We must confess that at first sight the amount of space taken up by these tables is startling. They occupy 160 out of the 360 pages contained in the report. The next impression is one of admiration for the zeal which has prompted the carrying out of this vast scheme of tabulation. The work is enormously increased by the fact that the figures of the contributing asylums, which in themselves are gigantic, are worked up together and summarised into one tangible whole. Where averages have been called for in individual asylum reports, they have been provided in the summary. We feel that the Asylums Committee and its officers have laid every one concerned under a deep obligation in undertaking the heavy work of setting out in practicable form the facts recorded by its medical staff. There can be no gainsaying the fact that the present mass of information is the most valuable contribution that has up to this time been made to the statistical side of psychiatric science. The work has, indeed, been done well, set out plainly and conveniently. One great result of the new scheme, as it affects London, is that in the most important matters, such as causation, forms of insanity, and causes of death, it has become possible, for the first time, to give summaries of all the asylums' returns.

Turning to the scheme itself, it is only when one takes in hand this huge but compact enumeration of medical facts, relating to one-fifth of the pauper lunacy of the country, that one recognises the immense stride taken by the Association in the adoption of a new scheme of

record. At the very outset the value of the cardinal differentiation between direct and indirect admissions is emphasised by the happenings of this first year of new tabulation. Instead of an average of 10 *per cent.* of the admissions being transfers a full third is shown, mostly due to the opening of Long Grove. This alone would have vitiated any comparison with preceding years. In other directions new lights, that cannot fail to be instructive, are thrown on questions, while, for anyone who takes a real interest in asylum figures, there is now ample scope for inquiry and thought, which may be applied without a feeling of their being wasted. The following are some of the points which appear to be worthy of note :

In Table A 2 we can compare for eighteen years the difference in results between calculating total recoveries on *total* admissions, and the same on *direct* admissions. The mean of the former is 30·65 *per cent.*, with variations between 22·18 (lowest) and 42·09 (highest), while in the latter case the analogous rates are 37·84, 31·78 and 45·88. Obviously the inclusion in total admissions of a quantity of indirect cases (mostly chronic transfers) tends to debase the recovery-rate on total admissions, and the coincidence of low recovery-rate with many indirect admissions is to be expected. But for some reason or other, not at present very obvious, the higher rates in the second method of calculation also coincide with the lowest number of these indirects. Can it be that the disturbance caused by the addition of abnormal amounts of chronic insanity tends to interfere with the treatment of recoverable cases? The number of direct admissions does not in itself seem to have any effect on the recovery-rate calculated on them.

Of 3,552 direct admissions only six (three of each sex) were sent out as not insane on admission. Seeing how easily delirious conditions, arising from other causes than insanity, may be mistaken for the latter disease, those figures demonstrate the immense care taken in certification.

The greater detail of duration of insanity on admission, as provided by Table B 2, does not seem to have altered the results generally found under the old system. It seems somewhat strange that of about 2,400 first-attack direct cases (excluding congenitals) 900 should have been kept out of the asylum for more than three months. As might be expected, the "not-firsts" returned much more expeditiously on relapse.

The Table B 3, dealing with age and civil state in the total of patients, does not disclose anything fresh, the disturbance in the usual relations between single, married and widowed, being probably due to the fact that one-third of the total admissions were transfers. But in the next table, B 4, which deals with the same elements in detail, and in regard of direct cases only, there is some novelty. From the total of direct cases, congenitals and "unknown-whether-first-attack-or-not" cases are removed, and the remainder are divided into "first-attack" and "not-firsts." In regard to the latter the age on first attack is recorded. It should be pointed out that in this table (B 4) the age treated is that at the commencement of the attack, whereas in the preceding table age on admission is dealt with. The average age of the first-attack cases works out at about forty-two, one year less than the

age on admission of all cases, whereas the age on the commencement of the first attack, in those cases in which there had been more than one attack, is approximately thirty-five. We offer, for what it is worth, the suggestion that this disparity tends to show that those cases, in which a recurrent element will probably reveal itself, first happen at an earlier period than in those cases in which relapse is less probable. The fact that there is, on the average, seven years' longer opportunity for recurrence in each of the earlier cases has but little effect on this argument, since there is, as we know, plenty of time for recurrence after forty-two.

Table B 5 gives information that has never been summarised before in London, in consequence of views on classification having been hitherto difficult to homologate. There seems still to be some considerable want of harmony as to the precise interpretation of some of the terms in the new scheme. No great harm, however, is likely to arise, as there seems to be no doubt about the more frequently found and important groups. The volitional group (No. 12) and moral insanity (13) seem to command but very slight attention anywhere. The group made up by confusional insanity, stupor and primary dementia, all phases intimately connected with the evaluation of the term "*dementia præcox*," seems as little likely to be harmoniously interpreted as is this latter subject of contention. It would be interesting to know the respective views of the recorders as to what constitutes primary dementia. In 3,558 direct admissions this form of dementia is returned 93 times. In the four older asylums, admitting 1,676 direct cases, it was assigned twice, the other 91 entries occurring elsewhere in the balance of 1,772 admissions. It will be desirable, if not entirely necessary, that before long some authoritative interpretation of the particular term should be given. The new delusional group (11) seems to be quite a success, being made use of in about one-tenth of the direct and in a full quarter of the indirect admissions. In regard to the latter, its institution must be a source of relief to those who have hitherto had to make a choice between chronic mania and dementia. As between systematised and non-systematised delusion the results follow expectation, the former predominating in the transfers, the latter in the direct. We note that Dr. Stansfield introduces for one case the term "*convalescent*," a sort of half-way house between declared insanity and "*not insane*." This seems to us to be a very excellent way of dealing with cases which not infrequently cause a medical superintendent some heart-burning. He does not, we may feel sure, wish to suggest any doubt about the diagnosis of his brother outside, yet justice to the patient drives him that way, unless it can be shown to be possible that the case has been examined under differing circumstances. The term, so far from suggesting doubt, by implication supports the previous diagnosis. The fortunate infrequency of acute delirium is shown by its occurrence in only 8 out of 3,558 direct admissions.

The Occupations Table (B 6) establishes a point touching one form of environment. With one exception the returns show that the age-incidence of insanity is absolutely undisturbed by occupation. Whether in individual trades, under which are entered sufficient numbers to warrant consideration, or in the summation of the table page by page, or in the

summary of the pages over which the table extends, the same result is found, closely adhering to the figures shown in the age-on-admission table. The column for ages 35-44 is best filled. Next comes the column on the left, from 25-34, and then the column to the right, from 45-54. The first of these everywhere contains about one-fourth part of the first-attack admissions (excluding congenital cases) to which this return is wisely confined. The exception alluded to above is in regard to female domestic servants, in whom the chief incidence is brought forward ten years, that is to say, the maximum appears under 25-34, the contiguous columns bearing the same relation to it as shown above, *viz.*, highest to the left, the next highest on the right. As the number of this class is very considerable, forming more than one-sixth of all the female cases, the general average would have been affected to some extent had it not been put right by the large number of female "no occupation" cases under 35-44. So the two sexes, on totals, closely correspond to each other and to the general age average. It should be noted that the "no occupations" were 73 among the 1,224 males and 681 among the 1,283 females. This table is full of interesting points; that of the earlier incidence among domestic servants might repay attempts at elucidation.

Table B 7, dealing with ætiology, is doubtless the one from which most is hoped. In time it certainly must afford valuable help in social, as well as medical, questions. There is, however, scope for the influence of considerable variation in medical opinion on certain points, such as has been alluded to already. In this table the chief point of variation is the difference between *principal* and *contributory*. There was in the old days a similar want of harmony between the then-existing terms *predisposing* and *exciting*. Curiously, as far as we can see in comparison with the former tables of this Council, the same proportion of doubt exists now as then, although it must be stated that now doubt relates to individual cases, while then it was in relation to causes assigned. Then, as now, this state of doubt was not general apparently, but felt by a few only. It is to be hoped that eventually there will be some way of getting over the difficulty, which, though it can be discounted in the study of individual asylum returns, must affect the general value of the summary. As to non-assignment of any cause at all, through failure to discover assured factors, the ratio remains about the same, *viz.*, about 12 *per cent.* But, as this year the prolific "cause" of previous attacks is excised, it must be held that investigation has been either closer or more successful. It has to be noted that, in comparison of the present with former years, direct admissions only are now treated. About 5,800 factors have been scheduled in respect of the 2,462 cases in which definite opinion is expressed. As only one factor is allowable to each case under the head of "principal," it follows that about 3,300 contributories have been marked.

As to individual factors alcohol stands out pre-eminent as usual. It is followed by other factors as shown in the following synopsis.

	Principal.			Contributory.			Total.			Commissioners' Tables.		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Alcohol.	272	223	495	275	60	335	547	283	830	377	162	539
Mental stress prolonged	186	267	453	141	128	269	327	395	722	—	—	—
Heredity (insane)	101	53	154	235	315	550	336	368	704	350	468	818
Cardio-vascular degeneration	13	3	16	200	153	353	213	156	369	—	—	—
Syphilis (acquired)	81	5	86	202	35	237	283	40	323	90	17	109
Senility	56	98	154	79	73	152	135	171	306	132	161	293
Epilepsy	109	66	175	45	41	86	154	107	261	—	—	—

(¹) Figures for all England reduced to basis of L. C. C., total admissions.

The effect of "previous attacks" is shown by the sub-joined contrast between the relative frequency of certain factors in "first attack" and "not-first-attack" cases among those in which a definite ætiology is assigned:

	First attack.				Not first attack.		
	(M. 871 F. 934 T. 1805)				(M. 236 F. 314 T. 550)		
Alcohol	377	200	577	.	142	73	215
Heredity (insane)	234	242	476	.	85	109	194
Mental stress prolonged	242	278	520	.	72	106	178
Cardio-vascular degeneration	139	130	269	.	52	21	73
Syphilis	229	34	263	.	37	3	40
Senility	99	140	239	.	24	23	47
Epilepsy	113	79	192	.	22	13	35
Puberty and adolescence	71	95	166	.	15	27	42
Climacteric	1	125	126	.	1	43	44

We are glad to see even one case of a male returned under the head of climacteric. We believe that this factor might be returned oftener with truth and advantage.

Table B 8, working out the correlation of factors—the apple of the Statistical Committee's eye—demands an amount of attention which we cannot pretend to be able to give it now. It is immense and most praiseworthy. The precise bearings are yet to be worked out and valued. But that there is in it a mine of important information cannot be doubted, and the results must be more striking as year after year is added to the period of observation. We may here, however, state that according to this table in 334 admissions of general paralytics (M. 267, F. 67) the following correlation of factors was found in males, females, and total. Insane heredity, 35, 12, 27; alcoholic heredity, 16, 5, 21; prolonged mental stress, 41, 7, 48; alcohol, 64, 8, 72; syphilis, 131, 8, 139; cardio-vascular degeneration, 18, 5, 23; sexual excess, 9, 1, 10. Other factors were correlated in smaller quantities.

In Table B 9 general paralysis is dealt with in another way, and we venture to think that the statements contained in this table are very striking. We summarise them thus:

	Direct admissions.				General paralytics.				Ratios.		
	M.	F.	T.		M.	F.	T.		M.	F.	T.
Single	733	732	1465	.	67	9	76	.	9'14	1'22	5'19
Married	808	828	1636	.	182	44	226	.	22'52	5'31	13'84
Widowed	143	306	449	.	17	14	31	.	11'73	4'57	6'90
Unknown	6	2	8	.	1	—	1	.	16'86	—	12'50
	1690	1868	3558		267	67	334		15'80	4'01	9'10
Syphilis noted in				.	136	13	149				

The markedly smaller ratio occurring in the single cases may be to some extent accounted for by the larger proportion of unmarried people admitted in the periods of age when syphilis could hardly be acquired. But as these cannot number more than 250 the operation of this explanation is very limited, and the fact must remain that the incidence of general paralysis on married folk is a long way heavier than on single people, and less so on the widowed. As to the age incidence of general paralysis, the highest period is 35-44, then 45-54, next 25-34 and 55-64. Of four cases occurring in the period 20-24 three were females. Congenital syphilis accounts for only three cases against 146 in whom it was contracted by the individual.

Table C 2 does not show any fresh value at present. The correlation, peculiar to the table, between age at commencement and the duration of the attack, will require the accumulation of many years' experience before results of any worth can be deduced. In the old scheme it was possible to compare ages of all admissions with ages of all recoveries. But, of course, in such a year as the past one, in which one-third of the admissions were transfers, more or less chronic, the results of such a comparison would be utterly useless for contrast with preceding or succeeding years. Under the new system a comparison can be made with the more stable element of direct admissions. But, as said, some years must elapse before any useful results can be obtained.

C 3 gives much the same information as was obtainable before, regarding the forms of insanity which yielded recoveries. It is now given in summary for the first time in London. The chief point of interest, however, in the table as it now appears, is that, with one exception (moral insanity), every form of insanity in the whole official schedule has had its recoveries. Thus we read of 17 cases of secondary dementia getting well, 3 general paralytics, 6 with grosser brain disease, 38 with epilepsy, and 5 senile dementers all having the same good fortune. These facts give rise to much reflection. The happenings have not been confined to one or two of the contributory asylums. Each has had one or more cases which have got well under circumstances that, in the general acceptance of terms, would preclude such a result. It cannot be doubted that there is in reality no general acceptance of terms such as to insure harmony in record. There may, of course, be here and there errors of original diagnosis, but the number of the cases, and the undoubted competence of those who have to judge, render it certain that difference of opinion, and not error, is at the root of the matter. Some doubt must attach to the term "recovery." To know exactly what absolute recovery means presupposes a knowledge of what constitutes perfect sanity. This knowledge being denied us, or being, at least, incapable of exact expression, it follows that all the criteria of recovery that are applicable can be only relative—relative to the average of man's mental, intellectual or emotional condition; relative to the pre-existent state of the individual or even to his present capacity to conduct himself and to provide for his own circumstances. The Statistical Committee were very wise in refusing to attempt any definition of this and related terms. Then, there is another fruitful source of difference of opinion—the exact interpretation of some of our commonly used

names for disease. Dementia is, of course, the one which is most open to discussion. As is well known, some of our best authorities denounce its application to any form of mental weakness that can by any chance recover—indeed, the basis of actual degradation of brain structures, which underlies this contention, forbids the idea of amelioration of any kind. As against this, we find these twenty-two cases mentioned before as recovering from senile or secondary dementia. We do not include here any case of primary dementia, though the same principle of terminology is involved. It may be right in theory to restrict the significance of the term to one of confirmed hopelessness, but if this is to be so, a duty lies in those who support this to devise a term that will cover the conditions from which these twenty-two people have emerged. If they did not suffer from dementia, under which other head could they be returnable? We think that as it is there is a considerable amount of consequential or intercurrent mental weakening of a temporary nature, that goes now without any label, unless it be exhaustion from this or that, simply because there is no other fit term for it but this dread dementia. There is much in this and similar questions that needs adjudication by our Association. Until this takes place we can but hold that each man is entitled to speak of facts as he finds them.

One would have thought that systematised delusional insanity would have proved more intractable than the non-systematised variety. But comparing the thirty of the one and the thirty-three of the other with the general prevalences of the two forms, as indicated by the number of admissions (Table B 5), we find that the proportion of recovery is much the same.

C 4 brings forward entirely new matter, and we venture to think that it will eventually prove to be one of the most valuable of all the tables. The elucidation of ætiology—the prime question in the study of mental disease—cannot but be greatly assisted by the comparison of the known results of various ætiological incidences. The contrast made in the present table, between the factors ascertained on admission among the admissions with the same found among those who recovered, must be made with the full understanding that the two sets of figures do not necessarily apply to the same persons, and that in any case the classes from which the facts are gathered are not the same in both instances. The facts found on admission come from direct cases; those referring to recoveries are drawn from all recoveries, whether originally admitted direct or on transfer. With these reservations must be joined another—that, for reasons already given, total incidence of factors is taken in preference to “principle” incidence. We find that the following relations exist in some of the more interesting particulars, the number of cases in which factors were found on admission being shown in brackets. Insane heredity 300 (704), alcoholic heredity 46 (226), neurotic heredity 31 (62), congenital mental defect 74 (234), puberty and adolescence 64 (211), climacteric 58 (176), senility 24 (306), puerperal state 35 (77), lactation 14 (43), mental stress—sudden 96 (180), mental stress—prolonged 341 (722), privation and starvation 54 (169), alcohol 349 (830), influenza 23 (72), syphilis—acquired 50 (323), epilepsy 30 (261), cardio-vascular degeneration 47 (369), cases in which no factor was assignable, notwithstanding full history and observation

39 (101), the same with defective history 95 (330). It will be noted that the highest proportion of recoveries to admissions is found just in those cases in which the exact force of the factors, as applied to individuals, is least definable, *viz.*, in prolonged mental stress and heredity of insanity. The low proportion subsisting between the admissions and recoveries in regard of alcoholic heredity is notable, and serves to support the views of those—Drs. Clouston, Robert Jones, Menzies, Parker, and others—who for years past have demonstrated the danger to offspring arising from parental inebriety.

Table D 1, giving the causes of death, divided into principal and contributory, and showing the correlation of the various causes, is all new work; in fact, this is the first occasion on which the causes of death have been summarised at all. The new departure, in denominating the causes, probably makes it easier for the certifier to assign a particular cause, but it does not remove difficulties or differences of practice any more than is the case with the new terms used in the ætiological tables. For instance, the efficiency of "senility" as a cause is viewed in various lights. Of the 1503 deaths, just 10 *per cent.* are returned as principally due to old age. In the individual asylums, leaving out the newer ones, the same percentage varies from 1.3 *per cent.* to 25 *per cent.* In only one asylum has it more than a negligible influence as a contributory. The correlation of the causes will have to accumulate for many years before results of any real value can be looked for. The causes of death were verified by *post-mortem* examination in 87 *per cent.* of the deaths. A little over one-third of these were due to diseases of the brain and nervous system, general paralysis taking precedence of all causes with 313 in number. In nine cases it was considered to be only contributory. Phthisis comes next with 196 cases as principal and 32 as contributory.

Table D 2 is very much the same as old Table V, the principal causes only being taken for correlation with age. We notice, however, that the arrangement of the cases is by no means the same in this table as it was in the last. The order, and indeed the grouping, still differ in some of the asylums. It is true that in the summary the latter is adhered to in both tables, but inside the groups themselves there is some dissimilarity between the two tables. This, no doubt, arises from the difficulty of harmonising the various forms of the table submitted to summarisation, but it is inconvenient. Further, actual error creeps in; for instance, at the very head of the list in Table D 1 the tuberculous affections count up as 210; in D 2 they make 213. It would be a great boon if every item could always be found at exactly the same place in the list in each table.

Table D 3 will in time be one of those which may be of great service, should the question of probable duration of life be again raised in relation to the insane. It will be remembered that a few years ago Sir William Gowers showed much interest in it. With regard to a lethal disease, such as general paralysis, the returns are very useful. Of 308 cases 25 died within 3 months' duration; 27 from 3–6 months; 20 from 7–9 months; 22 from 10–12 months; 92 from 1–2 years; 57 from 2–3 years; 51 from 3–5 years; and 14 over 5 and less than 10 years. The mean duration, taking the mean of the respective periods for the

purpose, was just over 24 months. The inner question of the average duration in each form of paresis has still to be worked out, but should repay investigation. The average duration in the females was somewhat higher than in the males. Of 51 who died with a duration of 3 and less than 5 years, 36 were males to 15 females. With 5 and less than 10 years the relative numbers were 8 and 6. The numbers for any one year relating to acute delirium would be too small and uncertain to supply foundation for computation. The figures, however, for the past year stand thus: 8 cases were admitted; 1 recovered, 3 died, and 4 remained December 31st. One of the deaths occurred within one month of seizure; the other two between one and three months' duration.

The immense influence over the death-rate exercised by general paralysis is shown thus:

Ratio of <i>all deaths</i> to average daily number	M.	F.	T.
on registers	9.65	7.59	8.47
The same after cases of general paralysis have been removed from residence, and deaths	6.66	6.96	6.84

The mortality rate as between the sexes is actually reversed.

The remaining tables, dealing with the residue at the end of the year, offer but little ground for present remark. They both will be of importance in the study of duration of life in the asylum when that comes to be considered. But it will require an accumulation of many years before valuable information can be extracted from them. We are not quite sure that the substitution in Table E 2 of the form of mental disorder at the time of report, for that on admission will, from an actuarial point of view, be a success. In neither, of course, can individuals be followed, but in some forms of disease the fate of classes could be dimly traced, with the concurrent assistance of Tables B 5, C 3, and D 3 under the former definition.

In leaving this part of the report we must renew the expression of a feeling of admiration for the method in which the Asylums Committee and its officers have taken up their share in this great work. We look forward to the time when the area covered will include the large portion of London lunacy now administered by the Metropolitan Asylums Board. The present may, we feel sure, be taken as an earnest of the future.

The happenings in the individual asylums of the county have not been such as to lead to much remark here. The opening of Long Grove naturally entailed much labour and responsibility on Dr. Bond, who is grateful for being able to record the removal of about 1,200 cases from other asylums, where they had been boarded out, without any accident. We note that many of these proved to be of the noisy, violent and turbulent class. At Claybury, Dr. Robert Jones reports an unprecedented number of accidents and fractures, apparently in relation to the state of the polished floors, which is receiving the attention of the Committee. Of course imperviousness to fluids of all kinds is a great desideratum, but the placing of slippery surfaces under general paralytics and other feeble folk does not seem in the asylum to be regarded as irrational as would be the case outside the asylum. At the Epileptic Colony it is found that the supply of inmates from the other asylums is

rapidly lessening, only six out of a total of eighty-seven admissions arriving after special appeal. In consequence direct admission from the parishes is growing, with the result that adolescent cases become more numerous.

Dr. Mott, in his report as Director of the Pathological Laboratory, states that the condition of the asylums as regards dysentery and diarrhoea has improved. In 14.59 *per cent.* of autopsies active tuberculous mischief was found. We note with pleasure that Dr. Mott has been selected to give the Morrisonian Lectures in Edinburgh for this year. The researches of Dr. Candler, made in the relations between diphtheroid organisms and general paralysis, entirely refute, Dr. Mott thinks, the assumption that the presence of these organisms in the blood and tissues of those suffering from paresis can be regarded as anything more than an accidental secondary or terminal microbial infection.

London Metropolitan Asylums Board.—The Commission on the Feeble-minded having reported on the evils of duality in the management of the insane of London, and having recommended that this authority shall not continue its share of the work, we suppose that in the course of time the Board will disappear from the scene. When this time comes, it may solace itself with the reflection that, in spite of the unpromising nature of the invalids who have been committed to its care, it has done an enormous amount of good in its day. Especially in its care of imbecile and deficient children has its work been notable and beneficent. The duties of the new body, whatever it may be, will prove to be lighter on account of the foundations laid down by the Asylums Board. We must confess that, as we have often said before, on every account one body must be better able than two to undertake one subject, but we hope that the new authority will be representative, not only of the County Council, but of this Board as well.

In the general report mention is made of the increasing evil of removing senile cases from workhouse wards to the Board's Asylums. Over one-quarter of the admissions exceeded seventy years in age. On the other hand the age limit of imbecile children has been lowered from five to three. It will be interesting to see if any improvement in general conduct and habits will ensue from this earlier coming under skilled control. So many senile and sick folk having been admitted of late, it has become necessary to cut up the big wards in many cases into smaller ones, as the former were found to be quite unsuitable. As Dr. Needham points out, this arrangement may be more expensive at first sight, but the extra cost of maintenance may be compensated by better supervision that will be entailed. The Asylums Committee speak very warmly of the efforts made at Darenth for the training of imbeciles in remunerative trades. They regret that it was not possible for the whole Board to have inspected with them the arrangements and work done. As is right, warm praise is accorded to Dr. Rotherham for the great advances made in this direction. We note that eleven separate trades are pursued, that each but the tinsmith's shop makes a satisfactory profit after allowing fully for the craftmaster's salary. The total profit works out at about £1,080, but no allowance is made for rent or maintenance of the shops. Still, if nothing is made, there is a heavy credit for the good influence of organised and intelligent work, and for the gratuitous

teaching, which must always be a benefit, and sometimes may secure a livelihood for the pupils. We are told that the Committee minute books are made in the new printer's shop, and that two of the inmates are capable of binding any book throughout, and one is making rapid progress with gilt lettering.

The Children's Committee report that out of an average of 20,000 poor-law children, with whom they have to deal annually, about 1,500 require special treatment. The special expenditure for these amounted to £61,000 in 1907. The Committee can report that, apart from medical requirements, the general education given meets with the approval of H.M. Inspectors. Their reports speak quite favourably.

Miss Turner, the Medical Officer attached to the various homes, except that at Witham, speaks of increasing self-control brought about by training. She utters sound sense in the following:

"I think it is a pity that more is not done in the direction of rural occupations. There is plenty of scope in the Colony for gardening and poultry farming, and these occupations would interest the girls, and also give them the physical exercise in the open air which is so beneficial for their health. They are capable of something much more practical than playing at attending to little gardens. Heavy work, like digging and rolling, is beneficial for them; in fact, the heavier the work, provided it is not sufficient to strain them, the better. The difficulty with the big, strong ones among our girls is to find work which will fatigue them sufficiently. A few fowls are kept, but there is room for a good many more, and if methodically worked up this department might be made a profitable industry."

One home for boys has been recently placed under the care of Dr. Rotherham, whose labour-developing talents seem to be bearing fruit. In February of this year he writes that the new tailors' shops were opened in September of last year, and that several of the boys show remarkable aptitude for the work. One can already make new trousers and waistcoats and is a good machinist, while the next three best can make vests. He says that over 36 *per cent.* of the boys were addicted to bad habits. To check this by night, which has been hitherto a difficulty, a night attendant had been instituted, with marked benefit in conduct and industry. It is hoped that the addition of another trade-attendant will enable continuous supervision being kept up at all hours of the day.

In the various reports of the Medical Superintendents, Dr. Beresford complains of the class of senile patients sent to him. He thinks that, as in many of the cases there is nothing incompatible with senility, they do not come under the term "imbecility," which is an unfair reflection on their families. The average age on death at Tooting was seventy-three for the males and seventy-four for the females. This is 15 *per cent.* higher than at Leavesden or Caterham. As Tooting Bec admits 550 out of the 800 new admissions into all the Board's asylums, the character of those admissions may be guessed from the age on death. The mortality exceeded one-third of the average residence. There was great immunity from phthisis, only 5 of the 258 deaths being due to that cause. Dr. Beresford thinks that this is attributable to scrupulous cleanliness and free ventilation.

Dr. Elkins, at Leavesden, is able to report a falling death-rate from tubercle, this being a percentage of 2.03 on the average number resident, against 5.46 in 1900. It will be remembered that he undertook very energetic action in the direction of segregation of phthisical patients, and this has proved successful.

At Caterham Dr. Campbell likewise complains of the character of the patients sent to him, the majority coming from other of the Board's asylums. He says that they are quite unfitted for his large wards. He notes a gradual falling-off of the patients having a capacity for work, this raising the rate of maintenance on account of the necessity to hire more help.

The statistics are still kept up with great care, but they are as yet in the old form of the Association. We believe that the new system is likely to be adopted. One point noticeable is that, among the fresh admissions, instead of the married being at the head of the Civil State table at the three asylums confined to adults, the single come first, followed by the widowed. At Tooting the numbers are respectively: Single 205, married 126, widowed 218. This latter number tells a sad tale, and probably confirms the idea that many of the patients come for negative rather than active reasons. This is further fortified by senility being returned as the factor in 293 admissions as against alcohol in twelve only. Yet once again we may, we think, say that the same tale is told by the table of heredity prepared at Tooting. Only 5.8 *per cent.* were found on admission to have insane relatives. As this table is in detail it may be assumed that more than casual attention was paid to the inquiry.

In the Medical Supplement we note a contribution by Dr. Sherlock, of the Belmont Asylum, which by its ability and value causes psychological study to take a worthy place by the side of much erudite inquiry into other branches of medicine—notably the incidence of zymotic disease. Dr. Sherlock chose his subject—The Pathology of Epileptic Idiocy—for his thesis in the London M.D. examination. An interesting comparison, in regard to certain factors, is made between forty-five male epileptic idiots and the same number of non-epileptic idiots. He found, after careful inquiry into the family history of each case, that in the former (Class I) there was heredity of nervous or mental disease in 55 *per cent.*, in the latter (Class II) the percentage was the same. But in regard to direct insanity, the preponderance of heredity was in favour of the latter class by 44 to 31 *per cent.* As to epilepsy in Class I, heredity showed itself in 22 *per cent.*, in Class II only 4.5 *per cent.* In the matter of alcohol the heredity was not strong in either case, being, for Class I, 20 *per cent.*, and for the other 13 *per cent.* Syphilis also plays a smaller part than might be expected, *viz.*, 18 and 11 *per cent.* respectively. As is pointed out, the disease may have a stronger predisposing power for epilepsy than for mental disease.

Then follows a long series of studies in particular stigmata of two parallel groups of seventy-five each—one of epileptic idiots, the other of non-epileptic idiots. Dr. Sherlock could not find any valuable results in the comparison, either in the direction of elucidating the pathology, or from the diagnostic point of view. Head measurements and asymmetry have been inquired into without much result.

Asymmetry seems to have been found more often in the latter class, though only of slight degree. Abnormalities of the ears supply negative results, but in defects connected with the eyes more error was found with the epileptics in the proportion of 28 to 10. Ptosis was found in seven cases of epilepsy, none being found with the others, strabismus and inequality of the pupils (right smaller than left) being also more frequent with epilepsy. With regard to palatal differentiation from the normal, Dr. Sherlock adds a fourth class to those framed by Dr. Clouston. This consists in a wide and flat palate. There is no very marked difference in any of these classes as between epileptics and non-epileptics among the idiots.

Evidences of paralysis are found in a proportion, as between epileptics and non-epileptics, of 2 to 1. Paralysis of all limbs, right and left hemiplegia, are found in twenty epileptics and in three only of the non-epileptics. But paraplegia was found in nine of each of those classes. As regards the former affections, Dr. Sherlock thinks from Dr. Bourneville's figures, that his own show an exaggerated tendency, but that they support the accepted idea of there being a relation between early brain lesions and the development of epilepsy. Altogether he concludes that these and other of the usual stigmata cannot be taken very seriously. But there is one that has in his opinion great weight. He alludes to the adenoma sebaceum, and its representation on the face as the "butterfly rash." Dr. Sherlock gives considerable information about the cases in which this disease is found. He has termed it "anoia," and details some twenty cases from the records of Darenth and Belmont. Great mortality seems to attach to this condition, twelve of the twenty having died at the time of writing. The clinical characteristics are given as "the presence of a persistent eruption involving especially the face, and epileptiform seizures." In some of the cases the eruption preceded the fits, and the last on the list had not had its fits at the time of the report. Hypertrophic sclerosis is the pathological verdict pronounced by Dr. Sherlock. Growths in the brain (chiefly intra-ventricular) and in the kidneys were the dominant features of the autopsies conducted on some of the patients whose history is given. As these cases were anatomised before attention was given to anoia as anoia, these findings are, as Dr. Sherlock points out, not vitiated by prejudice in favour of the views expressed by him. He suggests that the toxic theory is the hypothesis the least inconsistent with what is known of epilepsy. Some very excellent photographs are appended to the essay, these showing interesting points in asymmetry and poor convolucional development. We think that Dr. Sherlock has made out his claim to have established anoia as a distinct pathological entity.

Staffordshire.—The reports of the three asylums maintained by this county have been bound together, and as each has adopted the new tables a very substantial volume is the result. We will venture to repeat a hope, expressed in a similar case, that some day increasing interest in the better condition of things statistical may happily lead to the working up together of the more important points in the individual reports. Thus there would be returns that would represent the county

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as a whole. The death-rate is very high in all the asylums, being 17·3 for the whole county. Tubercle appears to be largely responsible for this. General paralysis, on the contrary, shows a much less influence than usual, being 10·7 *per cent.* of the deaths as against a percentage of 16·7 for all England, according to the Commissioners' tables. Looking to the nature of the environment a heavy toll might have been expected. The admissions arising from that disease are worth reproducing, with the number of instances in which among the direct admissions there are assigned certain factors.

	Stafford.				Burntwood.				Cheddleton.		
	M.	F.	T.		M.	F.	T.		M.	F.	T.
Direct admissions	111	107	218	.	171	130	301	.	127	103	230
General paralytics	6	—	6	.	16	7	23	.	15	3	18
Alcoholics	36	15	51	.	49	14	63	.	59	14	73
Syphilis	6	—	6	.	9	0	9	.	21	4	25
Mental stress prolonged	9	28	37	.	32	31	63	.	23	16	39

The freedom of such a centre as Stafford from general paralysis is remarkable.

The occurrence of the two stock forms of insanity, and the fate of those who suffer from these, vary very much in the three asylums.

	Stafford.				Burntwood.				Cheddleton.		
	M.	F.	T.		M.	F.	T.		M.	F.	T.
<i>Direct admissions—</i>											
Mania, acute and recurrent	56	37	93	.	91	54	145	.	38	44	82
Melancholia, acute and recurrent	13	22	25	.	9	11	20	.	27	21	48
<i>Recoveries (total)—</i>											
Mania, acute and recurrent	23	15	38	.	38	34	72	.	16	20	36
Melancholia	4	14	18	.	—	6	6	.	17	12	29

West Riding, Wakefield.—Dr. Bevan Lewis is again able to show the remarkable benefits derived from saline purgatives, used to forestall colitis. In the last two quarters of 1902 there were forty-eight cases. In 1903 there were fifty-seven, and now there was only one in 1907. Another most important result has followed, *propter hoc*, not merely *post hoc*. Convulsive and congestive seizures, instead of being ordinary events in the life of general paralytics, have now become uncommon to a degree. Dr. Lewis deduces from this the probability of these seizures being due to intestinal toxication. He points out that in true epilepsy not the least effect is caused by the saline purgation. This is a great chapter in pathology. The electric appliances maintain their usefulness in the treatment of certain cases, and the out-patient's department is becoming an increasingly useful institution, its services being by no means confined to purely mental affections.

Some Scottish District Asylums.

Aberdeen City, Kingseat.—Times have indeed altered since, say, thirty years ago, when a general paralytic in high latitudes was a rare, if not unknown personage. Dr. Alexander writes thus :

"The most prevalent forms of mental disease among the direct admissions were acute melancholia, general paralysis, alcoholic insanity, and non-systematised delusional insanity. It is noteworthy that fourteen patients were admitted suffering from general paralysis, including a man and his wife, who were admitted within a few days of each other, an increase of eight as compared with last year. This disease, which picks out a person in the prime of life and generally kills him within a space of three years, is attracting a large amount of attention just now on account of the increase of the malady in the large towns. Although all the general paralytics admitted possessed the symptoms of the disease on admission, only three of them were what is usually described as typical cases ; of the others, three were acutely depressed and had attempted suicide prior to admission. The disease is very liable to be mistaken for alcoholism, as indulgence in alcohol is very often one of the symptoms."

There were eighty-six admissions altogether. We observe that Dr. Alexander tabulates the disease as "insanity with general paralysis." This nomenclature opens up a large field of inquiry. If the insanity is thus separable from the paralysis, why should the insanity be coupled together? Why not mania or melancholia with general paralysis? Could not most of the cases be included, for instance, under delusional insanity? However, this is a method far preferable to assigning general paralysis as a cause of the insanity, which was not unknown a few years ago. The experience of the "village" system of treatment is given :

"This was the first segregated asylum opened in this country, and asylums of a similar nature have been erected in Scotland at Bangour (Edinburgh District Lunacy Board), at Dumfries (the Southern Counties Asylum), and at Dykebar (the Renfrew District Board). As compared with the barrack system, the new village system has the advantage in external appearance as it looks less like an institution ; it allows of the patients being more easily classified and grouped ; it tends to diminish the effects of any noise or excitement among the chronic patients by localising the disturbance ; it minimises the risk of fire. On the other hand, it requires a larger staff, and it is perhaps less easy to supervise."

Glasgow, Gartloch.—Dr. Parker shows by a table that there is a persistent tendency for the admissions at the period of maturity (thirty to fifty) to decrease, and for that of decline (over fifty) to increase in number. He obtained a recovery-rate of nearly 40 *per cent.*, in spite of many recent cases being stopped at the Observation Wards in Glasgow, on their road to the Asylum. Boarding out of patients being confessedly interesting, chiefly from the economic point of view, the following remarks are worthy of note :

"Thirty-four cases have been boarded out this year, while only

thirteen were boarded out last year. This is equivalent to the population of a block for chronic cases, and to that extent boarding-out has saved the providing account. It should be remembered that as long as there are enough empty beds in an Asylum, or as long as the Asylum population is stationary, boarding out increases the cost of the care of the patients by taking a cheaply kept, or possibly profitably kept, patient away and paying 7s. per week for him outside, while the profit on his work is lost, and the difference between the cost of his maintenance and the average cost of patients' maintenance is added to the cost of the remaining patients. Thus, if a chronic dement and fairly useful farm worker is boarded out the parish pays 7s. per week for him, whereas his board and care in the Asylum probably only cost 2s. or so, the Asylum maintenance thus losing the difference between 2s. and 11s., which went to reduce to 11s. the cost of the more acute cases."

Dr. Parker has always made a great point of alcoholic heredity. His figures for this year are noteworthy. In 138 admissions the history as to the sobriety or reverse of the parents was obtained reliably. In 55 *per cent.* of these there was history of inebriety in one or both parents. The cases in which this taint was shown came into the asylum far more frequently at ages under than over twenty-seven. It is somewhat remarkable that, among the causes, hereditary predisposition to alcohol is recorded in only 3 out of 300 admissions. Alcohol itself is marked down for 54, while, in combination with syphilis and adverse circumstances, it accounts for 19 more. Among the forms of insanity alcoholic insanity appears in 15 cases.

Govan District.—Dr. Watson has added a fresh table by way of appendix to his original register, which takes the place of Tables 10 and 11 of the old series. It shows the recoveries, other discharges and the deaths among the admissions in the period from May, 1904 (which we assume is taken as the beginning of his new departure) to 1906. This is quite good; in fact it was necessary to complete his idea, and we imagine that it will be kept up in each succeeding year. We note that the visiting Commissioner pays a high compliment to the great care bestowed on case-taking:

"The manner in which the medical records in the asylum are kept deserves a tribute of praise. In every instance in which the case-books were referred to for information regarding patients, the history and progress of each case was found fully detailed, and the copious indices made it easy to find each point of reference."

This system of registration does not, however, dispose of many of the difficulties that must be felt here as elsewhere. For instance, all cases, direct or indirect, appear together. The nomenclature of paresis differs again from that noted in the Aberdeen report. In the appendix to the male register, under the head of "form of mental disease," are set out five cases. Two of these are stated to be general paralytics, the other three are given as mania, melancholia and dementia. But under the head of "result" they are all returned as dying from general paralysis.

The institution of observation wards in Govan itself has had the natural result of considerably lowering the recovery-rate. We note that

no less than 165 out of 237 admissions were first-attack cases entering within three months of the commencement of disease.

Inverness District.—Referring again to boarding out of patients, in which this asylum has always been an energetic agent, we note that Dr. Campbell, since translated to Stirling, has the following remarks in his report. The warning at the end especially should be noted by those who may be disposed to hurry on this system, without due regard to local conditions. Undoubtedly it would be very agreeable to be able to plant out a large quantity of chronic patients, so as to avoid the need for building expensive accommodation. But there are many contributing factors to take into consideration before success can be looked for in any given case :

“The efforts to send suitable cases out of the asylum on probation, with the view of their being ultimately discharged and boarded out with suitable guardians, have met with success. The Inspectors of Poor in our districts are now anxious to co-operate in obtaining suitable guardians and homes. During the past ten years 252 patients have been liberated from the asylum on probation. Of this number 189 were discharged at the end of their probationary period, 53 were returned to the asylum, having been found unsuitable, 4 died, and 6 patients, at the end of the year, had not completed their term of probation. The number of patients suitable for disposing in this way is limited, and becomes less each year. It is only after a patient has been an inmate of the asylum for a considerable time that the risk of sending him out on trial can be taken.”

There seems to be a very marked departure from normal in the civil state of those admitted into the asylum. The number of single was 103, of married 43, and of widowed 18. The single seem to recover oftener, but the percentage of recoveries on admissions is in favour of the married. The deaths also are in a less proportion among the married. But the residue at the end of the year is composed of 519 single, 121 married, and 42 widowed. The numbers of single and married in the admissions in all England are almost identical with each other. We wonder whether poverty has any hand in this striking disproportion in the admissions.

Lanark District, Hartwood.—A very extensive epidemic of scarlet fever was an important factor in the year's work here. It began in May through a male attendant. On June 14th there were 87 males and 29 females, 6 male attendants and 1 nurse in isolation. One can imagine nothing but a similar epidemic of smallpox, perhaps, much more disconcerting and worrying than such an occurrence as this. Luckily the type was mild, though very infective. No change was noted in the mental condition of those attacked. The extremes of age of those suffering were 18 and 76. We are not quite sure whether this asylum has the small additions to corridors that, with very slight segregation, are relied on for isolation. We have adverted to these before as being quite unreliable, at all events according to general experience. Two hundred yards is a minimum of distance in any institution.

We note that both the visiting Commissioners speak pointedly of the excellent food and clothing provided. Each describes the dinner seen by them. We also see that 96 attendants are on day duty, a proportion of 1 to $9\frac{1}{2}$ patients, with 19 on night duty. Much open-air treatment for mental troubles is practised, this entailing a good deal of extra attention. It is a matter for surprise and congratulation, then, to read that all this is done for a maintenance rate of £20 19s. per annum, or a weekly rate of about 8s.

The Egyptian Government Hospital for the Insane.

The re-modelling of the old hospital buildings being now practically complete, Dr. Warnock takes the present opportunity of giving a fuller account than usual of the great work accomplished under his direction during the past thirteen years. The beds now number 877, but in spite of substantial increase in accommodation there is still overcrowding to a considerable extent. He has been at last able to thoroughly divide the women from the men in a separate annexe. Among the quite recent work is the provision of workshops for fifty patients, and new admission-rooms for each sex, photographic room, and dormitories for attendants. The provision of electric light, telephones, fire-alarm, and electric-clock system brings this asylum into line with our own institutions. At first there were only $2\frac{1}{3}$ acres comprised in the grounds, with two gardens for the patients' use. Now there are 91 acres, over 39 of which the buildings, courts, etc., are spread, while there are 28 gardens. The staff has increased from 4 senior and 69 junior in 1895 to 26 and 245 respectively. During the same period the death-rate has been decreased from 33 *per cent.* to 9.56 *per cent.*—a shade lower than the rate for English asylums in the last year. The single rooms have a cubic capacity of 1,272 cubic feet, as against the 756 required by the English Commissioners. This, of course, is necessitated by the climate. The cost of the asylum now, including equipment, works out at about £107 of our money per bed. Dr. Warnock submits his proposals for increasing the asylum in the future. He is enabled to do this by the gradual rearrangements of the whole *ménage*, not an inconsiderable item being the removal of a railway from the premises. One thorn in Dr. Warnock's side is the number of criminal patients, who have been usually sent to another asylum at Tourah, but are now to go to him. We shall have more to say about these later. But the fresh arrivals necessitate higher walls and many more single rooms, the latter to prevent combination. Dr. Warnock recommends the institution of temporary observation sections in all the larger towns. A new asylum is being built at Khanka for quiet chronics who are not fit for discharge. We thus see in this distant land the genesis of ideas that are forcing themselves on us at home.

The maintenance rate works out at about £30 per annum, including clothing. A sum of £3,285 was received from the friends for the maintenance of patients in three classes. This brings down the net cost to the Government considerably, but Dr. Warnock doubts the justice and the policy of obtaining this money against the will of the

contributors, except from a husband for a non-divorced wife, or from a father for children under sixteen. He thinks that the cost drives friends to apply for the premature discharge of dangerous lunatics. The water supply has been a more than usually pressing question here, as the place is situated on the edge of the desert, and its insufficiency has made it impossible to employ many patients on the ground; while many trees are required to be kept alive for the protection of both staff and patients from the sun. Turning to the staff, Dr. Warnock has, we fear, much ground for discouragement. In the Hareem especially there is much trouble. The attendants are "ignorant, noisy and untrainable"; they take no interest in their work, and go off at a moment's notice. As to the assistant native doctors, though they seem to be well paid, Dr. Warnock regrets that he cannot say that all of them fully earn their salaries, partly because they exhibit but little interest in the work, and partly because they are so ignorant. The senior, Dr. Hamid Effendi Zahran, is a shining exception to the foregoing, having served conscientiously for thirteen years past. Offences by the staff are punished by fines, but Dr. Warnock very much doubts if any improvement follows the infliction of such punishment; he would prefer the bestowal of sums in reward for good service, and in this we could support him with home experience. He has been much troubled also by frequent errors in certificates, many, even of those signed by European doctors, being "both illegible and invalid as evidences of insanity." Twenty-two cases were admitted without certificates, being brought direct by their friends to avoid undergoing the usual application to the police. The latter procedure, as a matter of practice, is much objected to, and rightly, by Dr. Warnock. Voluntary patients are admitted.

Dr. Warnock has a class of twenty students to whom he gives a series of lectures. It is quite evident that native doctors require to have more knowledge of insanity than they possess. Five criminal lunatics were examined by local doctors before their crimes were committed, but their condition did not meet with efficient recognition. The consequences showed themselves in two murders, two attempts to murder, and a theft. Four patients were examined after the crime and certified as sane, though subsequent observation proved the contrary.

Turning to the statistical tables, we find that the admissions in 1907 were 613, the discharges and deaths 467, and the remainder at December 31st, 896. Of the admissions, 23 were re-admissions of those discharged in the year. The forms of insanity were principally as follows: Insanity from hasheesh, 60 male and 4 female; from alcohol, 35 and 1; pellagrous insanity, 69 and 20; epileptic insanity, 15 and 6; general paralysis, 29 and 1; adolescent insanity, 34 and 1; mania, 85 and 46; melancholia, 40 and 21. As to alcohol, 454 Mohammedan admissions yielded 19, and 114 Christian 17 instances. Of 18 Greeks, 5 were paretics. Dr. Dudgeon, the Assistant-Director, states that all the paralytics came from towns, 15 from Alexandria, 6 from Cairo. His observations bear out the experience at home—that sea-side towns yield the largest percentages of this fell disease. Twenty-five of the thirty had symptoms or histories of syphilis.

As to the causes of the insanity, the table of forms sufficiently indicates the majority: mental stresses brought about 31 admissions,

and senility 17; 217 had no cause assigned. The hasheesh patients came mostly from Cairo itself, Alexandria only sending 9 to the 27 of the former town. Discussing the influence of the opium habit, Dr. Warnock states that many of his admissions have used it, as shown by their avowals or by the drug being found on them. But he has never been able to trace any case to its use. He quotes for the information of the Egyptian readers considerable portions of the recent report made by a Royal Commission on its use in India, with which he generally concurs. Of course his remarks are entirely away from the cases of morphinomania, which occur in Egypt. The 79 deaths were attributable as follows: 20 to general paralysis 13 to exhaustion from mania and melancholia, 9 to tuberculosis, 9 to pellagra, various small numbers to other agencies, and finally one to plague. As to this last terrible visitation, it is supposed that the disease was contracted while the man worked in the provision stores barefooted, where cereals were handled and probably walked upon by him. These were possibly brought from Upper Egypt, where the plague was severe at the time. The patient was taken with a slight rise of temperature and malaise on June 2nd and died on the 6th, bacteriological examination having amply confirmed the diagnosis. Another patient was working with him under similar circumstances, but neither he nor anyone else in the place was affected, very stringent precautions being taken. The length of residence of those who were discharged as recovered was very much the same as it is with us, the majority leaving between one and three months, and next between three and six months. The occurrence, however, of one-third of the total deaths after less than one month's residence tells an eloquent tale of the character of the admissions as a whole.

Dr. Warnock has a somewhat sad tale to tell of the "accidents" that have taken place in the year—especially of those caused by the direct violence or murderous impulse of patients. It is neither our business nor our practice to allude to such matters unless some point can be gained thereby. Here we think that it is not difficult to put the finger of experience on a very weak spot, with a certainty that, unless this point receives adequate attention, there will be no decrease in such regrettable incidents. To begin with, the wards of the male patients seem to be overcrowded. Next, a large quantity of criminal lunatics, who used to be sent elsewhere, are now confined at Abassieh under Dr. Warnock, and the quantity is to be increased by virtue of a new order on the subject. Then the great majority of the wards are not prepared for such cases. The woodwork is rotten in many places, so that desperate men can kick out the panels of the doors, can wrench off pieces of wood or locks to make weapons, and so on. But the great source of danger is in the unsatisfactory character of the male staff. Here and there are exceptions, notably a charge attendant, who twice bravely acted so as to prevent further mischief at great personal peril. Dr. Warnock laments the negligence and want of alertness on the part of the attendants, and many of them have no experience. We here have, in years gone by, had the same experience. Until a really responsible body of officers was got together, similar accidents were happening, or were only prevented by inordinate use of mechanical restraint.

Restraint has necessarily had to be used at Abassieh to an extent

that is most distasteful to Dr. Warnock, without whose personal order no application of it is permitted to be made. Besides the amount necessary for surgical reasons, to prevent the removal of dressings, there was a record of over 2,300 hours required, partly to prevent self-injury or mutilation, partly because without it desperadoes could not be made safe in the poorly-provided single rooms during their paroxysms of murderous thirst for life. This total may be compared with last year's practice at Broadmoor, where with but a little smaller population no restraint whatever was used, because there existed a staff that rendered such treatment unnecessary. We know, too, how much the whole tone and character of the treatment is affected by the necessity to rely on such methods of treatment. The structural condition of the wards can easily, and no doubt will be, remedied, but no lasting good can be done with an unreliable staff. So much splendid work in the scientific amelioration of the lot of the Egyptian insane has been done by the Government already, under the enthusiastic advice of Dr. Warnock, that there is every reason to expect the authorities will apply themselves to the solution of the difficult problems submitted to them in connection with the improvement of the staff. Dr. Warnock offers some excellent advice in this direction.

We have left to the end a few remarks about the interesting subject of pellagra. As we have noted from year to year, Dr. Warnock's observations show a very close and important connection between it and insanity. Neither he, nor Dr. Dudgeon, can apparently assign a direct pathological relation, but it is known to be a most debilitating disease acting, therefore, as a strong predisponent. The actual source of pellagra itself is in doubt, though most accept Ceni's observation that it is traceable to a mould, attacking the maize which is the staple food in many parts of Egypt, Italy, Austria and neighbouring countries. Poverty is, in Dr. Warnock's opinion, a concurrent predisponent. Its occurrence is much attributed to fright or fear, while it is noted that the rich are practically immune in regard to it. Good diet seems to be a preventative. The whole subject has been discussed at several congresses in Italy, but the ætiology, as well as the social requirements for meeting the trouble, seem to be very far from being accurately known as yet. Recently, however, treatment from the medical side has received a wonderful stimulus by the success of atoxyl. This success cannot but prove to be useful to the study of pathology. Atoxyl, we may remind our readers, is an organic arsenic compound, containing about 37 *per cent.* of arsenic. It is relatively non-toxic, considerable quantities being injected hypodermically in cases of skin disease. In Roumania the following experience was obtained. Twelve cases were taken for treatment. Of these there were six mild cases, five of whom got well in a few days' time after treatment; sleeplessness was a prominent symptom. In the sixth, æt. 60, with arterio-sclerosis, confusion and sleeplessness, apparently no very great good arose, as the last note is "brain symptoms not improved." The next two cases were severer. Both were noted as having confusion; the first got nearly well and then relapsed; the second got well and kept well. In both improvement was very speedy after the administration of the drug. In the last four cases the attack of pellagra was severe. In

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the first of this series, admitted on May 21st, 1907, the state on admission is reported—"Acute mania ; attacks of fury ; abscess in sacral region." The patient had been pellagrous for four years. On May 30th, when there was no improvement, atoxyl was injected. The abscess opened spontaneously. On May 31st, "Sudden cessation of diarrhoea and mania." June 11th, "Intellect almost normal." June 13th, "Intellect clear." June 20th, "Good health." The next case was admitted April 8th. Ill for five years. "Very insane." Atoxyl for the first time on June 6th. "The very next day the diarrhoea ceases, the mind returns." June 12th, "Mind normal." June 15th, another dose of atoxyl, followed by some excitement. June 20th, "Calm, without symptoms of pellagra." The next case proved to be a general paralytic. Atoxyl had no effect on his mental state. The last case was a child *æt.* 7. Ill six months. Admitted June 4th ; was "Stupid, won't speak, weeps and cries day and night." On the 6th a full dose of atoxyl. On the 11th is the following note: "Marvellous result. Mind very clear, even lively. The child, who has not spoken for some weeks, gives exact descriptions of her illness." On June 20th she was quite well. The Roumanian doctors who bring these cases forward do not speak with certainty as to the ultimate result, but they obviously can claim striking present effects. As to the general paralytic, they suggest that they had not to deal with a case of pure pellagra, but only with one, perhaps, of pseudo-pellagra *des alienés* !

In taking leave of Dr. Warnock's report, we feel bound to say that it seems to us to be most worthy of close study, not only because each page supplies evidence of his own fitness for the great responsibilities attached to his distinguished position of adviser to the Government of Egypt, but also because the whole report is the most convincing proof of the soundness and vitality of those principles of dealing with the insane, which were born to us and bred up by us many years ago. In proper hands such principles will triumph under all difficulties.

Part IV.—Notes and News.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

A QUARTERLY MEETING of the Association was held at 11, Chandos Street, Cavendish Square, London, W., on Thursday, the 19th November, 1908.

Present—The President (Dr. Mercier) in the chair, and the following fifty-nine members:—Drs. T. S. Adam, C. Aldridge, H. Aveline, W. H. Bailey, G. F. Blandford, F. Bodvel-Roberts, C. H. Bond, D. Bower, A. N. Boycott, D. F. Briscoe, C. Caldecott, C. Chapman, R. H. Cole, H. Corner, H. Devine, T. O'C. Donelan, T. Drapes, F. W. Edridge-Green, F. A. Elkins, C. H. Fennell, S. J. Gilfillan, E. Goodall, G. Braine-Hartnell, J. W. Higginson, C. K. Hitchcock, D. Hunter, G. H. Johnston, T. Johnstone, Robert Jones, H. Kerr, R. Langdon-Down, N. Lavers, H. C. MacBryan, P. W. Macdonald, T. W. McDowall, W. F. Menzies, J. Merson, W. J. Mickle, J. Middlemass, A. Miller, W. F. Nelis, H. Hayes Newington, M. E. Paul, W. Rawes, H. Rayner, G. H. Savage, G. E. Shuttleworth, R. Percy Smith, J. S.

Spence, R. J. Stilwell, R. H. Steen, T. Seymour Tuke, J. M. Turner, W. Vincent, F. Watson, E. B. Whitcombe, T. Outterson Wood, H. Wolseley-Lewis, and D. Yellowlees. Visitor: Dr. W. Keith.

Apologies for absence were received from Drs. Bolton, Chambers, P. T. Hughes, Marr, Oswald, Urquhart, and others.

MINUTES OF LAST MEETING.

The minutes of the last meeting, having already appeared in the JOURNAL, were approved and signed.

The PRESIDENT said some of the members had the privilege, that morning, of attending at Bethlem Hospital, and hearing a very interesting demonstration by Dr. Stoddart on cases of dementia præcox, and he thought it would be appropriate if the meeting would thank Dr. Stoddart for his kindness on that occasion; and also Dr. Hyslop and the Governors of Bethlem Hospital for allowing the demonstration to take place there. Carried by acclamation.

The PRESIDENT said there was a small matter of form which required to be disposed of. At the last annual meeting an auditor was appointed under a misapprehension of the rules. Dr. Steen was appointed the Auditor for the Association, but it appeared that he was disqualified from that post by the fact that he was a member of Council. The matter had been considered by the Council that day, who had suggested that the name of Dr. Maurice Craig, who at present was not an office-bearer, should be substituted for that of Dr. Steen.

Dr. BOWER proposed, and Dr. ELKINS seconded (as members not on the Council) that Dr. Maurice Craig be elected Auditor. Carried.

THE DEATH OF SIR HENRY PITMAN, M.D., F.R.C.P.

The PRESIDENT said it was probably generally known that one of the most distinguished Honorary Members of the Association had passed away since the last meeting, the venerable Sir Henry Pitman, Emeritus Registrar of the Royal College of Physicians. It was noteworthy that he had attained his hundredth birthday on the 1st of July this year. No doubt the meeting would at once agree to a vote of condolence with the relatives. Agreed.

ELECTION OF NEW MEMBERS.

The following candidates having been balloted for were unanimously elected ordinary members:

Matthew Fitzjames Caldwell, M.B., B.Ch., B.A.O., Royal University, Ireland, Assistant Medical Officer, City Mental Hospital, Cardiff. Proposed by Edwin Goodall, H. Hayes Newington, and C. Hubert Bond.

Edward Ellis, M.D.Durh., L.R.C.S. & P.Edin., Craven House, Halifax, Yorks. Proposed by Mervyn A. Archdale, H. Hayes Newington, and C. Hubert Bond.

Edward Mapother, M.D., B.S.Lond., Assistant Medical Officer, London County Asylum, Long-Grove, Epsom. Proposed by C. Hubert Bond, G. F. Barham, and G. Clarke.

James Ernest Martin, M.B., B.S.Lond., M.R.C.S., L.R.C.P., Assistant Medical Officer, London County Asylum, Long-Grove, Epsom. Proposed by C. Hubert Bond, G. F. Barham, and G. Clarke.

John George Phillips, M.B., B.S.Lond., M.R.C.S., L.R.C.P., Assistant Physician, Bethlem Royal Hospital, London, S.E. Proposed by Theo. B. Hyslop, W. H. B. Stoddart, and Maurice Craig.

Capt. William Samuel J. Shaw, M.B., B.Ch.Irel., I.M.S., 150, Budd Road, Rangoon. Proposed by B. Henry Shaw, J. W. Stirling Christie, and C. Hubert Bond.

Eric W. D. Swift, M.B.Lond., Medical Superintendent, Orange River Colony Asylum, Bloemfontein, S.A. Proposed by Percy P. Bailey, H. Hayes Newington, and C. Hubert Bond.

Joseph D. Thomas, M.B., B.C.Cantab., Resident Licensee and Medical Officer, Northwoods House, Winterbourne, Bristol. Proposed by Maurice Craig, G. F. Barham, and C. Hubert Bond.

Albert Edward Vidler, M.R.C.S., L.R.C.P.Lond., L.S.A. (Medical Officer, Ashford District, Staines Union), Studholme, Ashford, Middlesex. Proposed by Ernest D. Skinner, G. F. Barham, and C. Hubert Bond.

THIRD INTERNATIONAL CONGRESS ON THE CARE OF THE INSANE, VIENNA, OCTOBER, 1908.

By R. PERCY SMITH, M.D., F.R.C.P.

THE General Secretary has asked me to give a short account of the Third International Congress on the Care of the Insane held recently in Vienna. It will be remembered that at the Congress held in Milan, in 1906, an International Commission or Committee was formed for the purpose of founding an International Institute for the study of the causes and prophylaxis of mental diseases. In connection with this, local committees were formed in various countries, but hitherto very little progress has been made towards the foundation of the proposed International Institute. His Majesty the King of Italy and the Italian Government having taken this proposition under their especial patronage applied to the Governments of all countries to nominate Official Delegates on the International Committee. The British Government nominated Dr. John Macpherson, Commissioner in Lunacy for Scotland, and myself (as being already a member of the Committee) to be representatives of the United Kingdom. I do not propose to refer further to this International Committee here except to say that during the Congress two meetings were held lasting over five hours, and it is hoped that the ground has been somewhat cleared towards its objects. The Austrian Government also applied to the British Government to nominate official delegates to the Congress, and they accordingly nominated Sir George O'Farrell, Dr. John Macpherson and myself in that capacity. Sir George O'Farrell was made an Honorary President of the Congress and presided at one of the general meetings. This Association nominated as its delegates the same three members and Dr. Helen Boyle, who also went to the Congress. Besides these this country was further represented by Dr. Cunyngham Brown, of Parkhurst, who was a delegate from the British Medical Association. Dr. Campbell-Highett was present as a delegate from the Government of Siam.

The membership of the Congress numbered about 500, including ladies, and it may be said that the meetings were fully attended and the interest maintained up to the end. Nothing could exceed the kindness and friendliness with which the representatives of the British Isles were received by the President, Prof. Obersteiner, the Vice-Presidents, Prof. Wagner von Jauregg and Dr. Heinrich Schlöss, and the General Secretary, Prof. Pilez, and his Assistant, Herr Thaler.

The Congress began on October 7th with a formal opening by Prof. Obersteiner, followed by welcoming speeches from Baron Hein, of the Ministry of the Interior; Dr. Karl Lueger, the Bürgermeister of Vienna; and Herr Bielohlawek. The delegates from the various countries replied shortly, Dr. John Macpherson speaking on behalf of Great Britain.

The work of the Congress was divided into nine sections, covering such wide subjects as the present modes of care of the insane in different countries, the care of dangerous patients, family care and boarding-out, the after-care of the recovered insane, the payment of patients for work done, the treatment of epileptics and feeble-minded, the construction of pavilions in asylums for insane criminals, universal form of annual reports, insurance of workmen in relation to insanity, the hospitalisation of the insane, imbecility and moral insanity in their practical and forensic relationships, the duty of the State in the treatment of partially responsible criminals, comparative legislation, the problem of asylum care of abnormal youths, the treatment of insane soldiers during war, the construction of asylums, and the education of nurses.

It is not possible in this short communication to give a digest of all the papers read, but I append herewith a list of them:

Dr. BRESLER (Lublinitz).—"Bericht über den gegenwärtigen Stand des Irrenwesens."

Dr. BUCHHOLZ.—"Einiges aus der hamburgischen Irrenfürsorge."

J. VAN DEVENTER (Amsterdam).—"Pflege der gefährlichen und schädlichen Geisteskranken."

KREUSER (Winnental).—"Bestrebungen und Erfolge der Irrenhilfsvereine."

MATTHIES (Dalldorf).—"Über Berliner Familienpflege."

FERRARI (Imola-Bologna).—"Les rapports entre les sociétés de patronage pour aliénés et l'assistance familiale."

- Frau OBERMAYER-WALLNER (Wien).—"Errichtung einer humanitären Arbeitsstube für aus den Irrenanstalten geheilt entlassene Frauen."
- Dr. UMBERTO MASINI (Genoa).—"Il nuovo manicomio della Provincia di Genova" (mit Demonstration).
- Dr. KONRÁD (Budapest).—"Über den heutigen Stand der Irrenfürsorge in Ungarn."
- SCHOLZ (Obrawalde).—"Die Ausbildung des Pflegepersonales."
- PEETERS (Gheel).—"La démence consécutive dans l'assistance familiale."
- BÉRILLON (Paris).—"Les établissements médico-pédagogiques leur rôle pour la prophylaxie de l'aliénation mentale."
- GERÉNYI (Wien).—"Irrenpflege und Verwaltung."
- FISCHER (Wiesloch).—"Einheitliche Gestaltung der Jahresberichte."
- STARLINGER (Mauer-Ohling).—"Streitzüge durch das Budget der n. ö. Landes-Heil-und-Pflege-anstalten."
- OBERBAURAT BERGER (Wien).—"Bau von eigenen Pavillons für geisteskranke Verbrecher in Irrenanstalten."
- DIREKTOR Dr. HERTING (Galkhausen).—"Bauliche Entwicklung der Anstalten für Geisteskranken" (mit Photogrammen.)
- MICHELL (Illinois).—"Development of the modern methods of the care of the Insane in the Illinois General Hospital for the Insane."
- REGIERUNGSRAT Dr. KÖGLER (Wien).—"Die Bedeutung der Irrenfürsorge für die Arbeiterversicherung und insbesondere die Invalidenversicherung der Arbeiter."
- STRANSKY (Wien).—"Psychiatrische Sachverständigentätigkeit und Geschworenengericht."
- FRIEDLÄNDER (Hohe Mark i. T.).—"Über die Bewertung der Imbezillität und der sogenannten Moral insanity in praktischer und forensischer Beziehung."
- FISCHER (Pozsony).—"Über die Sachverständigentätigkeit bei zweifelhaften Geisteszuständen."
- GRASSET (Montpellier).—"Les criminels à responsabilité atténuée. Nécessité de rendre légalement obligatoires dans tous les pays l'assistance et le traitement jusqu' à guérison (ou toute leur vie) de ces demifous dangereux."
- DUBIEF (Paris).—"Législation comparée."
- SCHINER (Wien), VOGT (Frankfurt a. M.).—"Fürsorge für Idioten. Epileptiker und geistig Mindertige."
- HEB (Görlitz).—"Pädagogische Therapie bei jugendlichen Nerven- und Geisteskranken."
- SIOLI (Frankfurt a. M.).—"Aufgaben der Irrenasyle bei der Beurteilung und Behandlung abnormaler Jugendlicher."
- TAMBURINI (Rom).—"Bericht des internationalen Komitees über den Vorschlag des Dr. Frank (Zürich): "Gründung eines internationalen Institutes zum Studium und zur Bekämpfung der Ursachen der Geisteskrankheiten."
- STABSARZT Dr. DRASTICH (Wien).—"Vorsorge bezüglich der Geisteskranken im Kriege."
- ZUZAK (Tyrnau).—"Die Irrenanstalt des k. k. Heeres."

The papers read and the discussions upon them will be published in the Transactions of the Congress.

The following communications deserve special notice:

Dr. Johannes Bresler, of Lublinitz, an Honorary Member of this Association, gave a comprehensive summary of the present state of the insane in different countries, with special reference to the use of seclusion and restraint, progress in physical methods of treatment, obligatory training of nurses, the nursing of male patients by women, epidemics in asylums, the care of the insane poor, the payment of workers, etc., and lastly he referred to the commencing diminution in the number of the insane in England and Scotland.

Dr. Van Deventer, of Amsterdam, read a paper on "The care of dangerous and violent patients," pointing out that asylums had become hospitals for mental diseases, and not merely places of seclusion, and that the proportion of patients who were intractable and unsociable in asylums was a very small one. Such patients exercise a deleterious influence on their fellow patients; but in the modern establishment, which allows of the proper differentiation of patients, the difficulties can be obviated

in the majority of cases, the number of dangerous patients diminishing in proportion to treatment on modern principles.

He divided dangerous patients into three categories :

1. The criminal insane.
2. The insane criminal.
3. The insane without criminal disposition.

He suggested the provision of a special section in each asylum for dangerous patients, who could be detained there as long as was necessary ; and, further, that every prison should have an annex in which doubtful cases could be kept under observation, or acute cases arising in prison could be treated. He also suggested the construction of special intermediate institutions for the social regeneration of the feeble-minded who may become harmful to society.

Dr. E. Stransky, of Vienna, made a communication on "The problem of the evidence of psychiatric experts before justices, judges, and juries." Before judges of the higher courts expert evidence may be fuller, and more special than can be expected to be put before lower tribunals. In the formation of opinions the expert must adapt himself to popular modes of thought. The public, and therefore the jury, possess little knowledge of mental disease. It is desirable that in every district a number of experts in mental diseases should be nominated for judicial purposes, by which, on the one hand, the danger of one-sided evidence would be avoided, and, on the other hand, there would be a guarantee that forensic practice would be in the hands of forensically trained physicians.

Dr. Matthies, of Dalldorf, Prof. Ferrari, of Bologna, and Dr. Konrad, of Buda Pesth, gave their experiences of family care of the insane in their respective countries.

Dr. Vogt, of Frankfurt, read a paper "On the Care and Treatment of Epileptics and the Feeble-minded." His conclusions were :

1. That the study of the psychology and psycho-pathology of youth is essential as the groundwork of the problem.
2. The problem is not only a medico-psychological, but also a social, one.
3. Its solution requires the concurrence of physicians, legislators, pedagogues, and workers at social science.
4. Part of the question concerns the organisation and formation of means for social care (care in choice of occupation, protection of children).
5. Legislation is needed for special courts and treatment for young criminals. In view of the large number of abnormal children, co-ordination with psychiatry is needed in such cases.
6. Special schools with prominence given to practical teaching in handicrafts are needed as well as "after-care" on leaving school.
7. Institutional care is a branch of the care of the insane.
8. Family care should take a prominent part in the treatment of the feeble-minded.
9. The foundation of the whole treatment is "protection for the weak," next society must be protected from dangerous elements, and the feeble-minded must be usefully trained as far as is practical.

A permanent Committee was formed for the arrangement of International Congresses on the care of the insane, Sir George O'Farrell and Dr. John Macpherson being nominated to represent this country, and it was resolved that the next Congress should be held in Berlin in 1910.

It was resolved that the special subjects for consideration in the next Congress should be the question of the foreign insane, voluntary admission into asylums, and the influence of the boarded-out insane on the mental health of the population among whom they live, and further, that a Committee, to begin work at Gheel, should be formed to inquire as to whether any bad influence had resulted to the intellectual state of the population, and mainly of the children, in places where large numbers of the insane are boarded out.

It was further resolved that, in the construction of asylums, the opinion of alienists should always be taken both in the plans and during the progress of building.

The members of the Congress had the opportunity of visiting the new Lower Austria Asylums at Steinhof, about three miles to the west of Vienna, on the slope of the Viener Wald. This comprehensive institution comprises three asylums

under one administration, *vis.* an asylum for patients whose disorder promises to be curable, an asylum for incurable cases, and "the Sanatorium" for wealthy patients. These three asylums, calculated for the reception of 3000 patients, comprise sixty separate pavilions. Three central blocks consist of the administrative offices, the theatre and dancing room, and the central kitchen, from which food is conveyed by narrow-gauge electric railways to all the pavilions in eleven minutes. The vessels containing the food are kept hot by hot-water jackets in small electric cars. The receiving pavilions are thoroughly equipped with every means for the examination of patients. There are separate pavilions for patients suffering from tubercle, syphilis, or other contagious diseases, and for criminals. The church is a magnificent marble building with a golden dome, and attached to it is a room with a bed, medicine chest, etc., for the purpose of giving aid to patients who may be taken ill during service. There are no covered corridors connecting the pavilions, each of which is surrounded by its own exercise ground separated from adjacent ones by a light iron railing. At present the whole estate is rather bare of trees, but that is only a question of time.

The sanatorium or asylum for private patients consists of thirteen separate pavilions, has its own hall for entertainments, a large swimming bath and every appliance for hydro-therapy and electro-therapy, a gymnasium, and also rooms for amateur painting, moulding and wood-carving, the prices varying from 7½ kr. to 20 kr. a day, or from about 2½ guineas to £6 a week. It is intended for neurasthenia and other nervous disorders as well as for the insane. The Medical Staff of the whole Institution consists of 21 physicians, no less than 16 of whom are married, and there are 452 nurses. Unfortunately, on account of the large number of visitors at the Asylum the members of the Congress were not able to visit the wards, and actually see the arrangements for the care of patients in working.

The members of the Congress were most hospitably entertained throughout the week. On the first evening there was an informal reception in the Rathaus by the officials of the Congress, music being provided by an orchestra of medical men; on another evening a most sumptuous banquet was given in the Rathaus by Dr. Karl Lueger, the Bürgermeister, over 600 guests sitting down to dinner, and on yet another evening a great reception was held by Freiherr von Bienerth, the Minister of the Interior at his own residence.

On the occasion of the visit to the Steinhof Asylum the members of the Congress were entertained at *déjeuner* by the Asylum authorities.

Besides this there were expeditions generally with free transit to Schönbrunn, to the Kahlenberg, the Cathedral and other sights of Vienna, and to the County Asylum at Mauer Ohling.

The Congress closed with a farewell address by Professor Obersteiner, and votes of thanks to the officials who had all combined to make the Congress a memorable success, Dr. Percy Smith speaking on behalf of the British delegates.

The PRESIDENT said the Association was extremely grateful to Dr. Percy Smith for his account of the Congress, at which he so worthily represented this country. Congresses in these days increased and multiplied exceedingly, and the Association was deeply indebted to any of its members who sacrificed time and undertook the responsibility of going to a foreign country, and there upholding the standard of English psychiatry.

THE BOARDING OUT OF THE INSANE IN PRIVATE DWELLINGS.

[A paper on this subject by Dr. Cunyngham Brown appeared in the *Journal of Mental Science* for July, 1908.

The report of the discussion which took place at the Annual Meeting on July 23rd and 24th, 1908, appears in this number at the end of these minutes (see p. 179).]

The PRESIDENT said the following resolution would now be considered:—"That the system of family care, in all forms, should be applied in the largest measure; and that the most practical way of initiating the system of family care is to institute it in the villages near asylums, the patients being placed with carefully selected families, and kept under the regular and direct surveillance of the doctors of the asylum."

He added that the subject had been 'fairly fully discussed at the previous meeting, but it was arranged that it should come up again that day in consequence of the suggestion as to the formation of a Committee, and also because it trenched very much on the Report of the Royal Commission on the Feeble-minded, which at that time had not been issued. That Report was now in the hands of members, and he thought it did not greatly modify the views which were arrived at by the Association. He asked whether Dr. Rayner had any further propositions on the subject.

Dr. RAYNER said he would formally move the resolution that a Committee be appointed, and add that he abided by that proposition. He thought the Committee itself should be left to be nominated by the President at leisure.

The PRESIDENT asked what were to be the terms of reference to the Committee : what was it to do ?

Dr. RAYNER replied that the resolution constituted the reference.

The PRESIDENT said the Committee could not itself apply that mode of treatment. Was it to suggest means by which it could be applied.

Dr. RAYNER.—Yes.

The PRESIDENT said that before he put the question as to the appointment of a Committee he would ask Dr. Cunyngham Brown to reply on the whole discussion which took place at the last meeting. No doubt he would be able to give some additional arguments in favour of it.

Dr. CUNYNGHAM BROWN said he was very glad that his task of replying on the discussion would prove a light one, owing to the very kind and friendly way in which his paper had been received by the members ; also to the fact that practically every speaker who took part in the discussion, with one exception, was entirely in favour of the views he advocated with regard to the adoption of family care in England and Wales. The general trend of the discussion interested him in that every speaker seemed to have in his mind only the segregate or Scottish system of the care of the insane. Only one speaker seemed to take into account the advantages of the congregate systems which existed on the Continent. He considered, from his own experience and from what he had read, that all the systems which had been adopted were good, and in speaking of them he had refrained from using qualifying adjectives. Yet he felt that if the family care could come in England and Wales, it would be unfortunate if the Scottish or segregate system were employed in the first instance, because it seemed to him that the simplest and safest way to bring about family care was by the congregate system, as indicated in the resolution. Another thing which interested him very much was, that first Dr. Clouston said Wales would be a good place for the trial of it. Then Dr. Yellowlees said South Wales must be excluded, as it was too wealthy. Then Dr. Robert Jones said North Wales would not do, as it was too poor. Then it was said that Ireland was too poor. As a matter of fact, there was no country too poor, nor any country too wealthy ; no peasantry was too wretched to have a system of family care. It was capable of being applied to private patients as well as to pauper cases. The only adverse criticism which was directed towards that system came from Dr. Milsom Rhodes, whom he did not now see in the room. Dr. Rhodes said he thought the boarding-out system was good for Scotland, but it was impossible in England. Such an attitude was beyond his, Dr. Brown's, comprehension ; because, to be logical, what Dr. Rhodes ought to have said was, that it might be all very well for Scotland, for Germany, for France, for Holland, for Belgium, for Scandinavia, for Austria-Hungary, and the United States of America, but it would not do for England. It was difficult to see why England should be singled out among the nations in that way. Those who objected to family care forgot that Bucknill, in the late fifties, carried it out in the Devon County Asylum. Dr. Bond, whilst sympathising entirely with the movement in favour of the adoption of family care in England, addressed some friendly challenges to his, Dr. Brown's, paper ; not so much on the contention of his paper, as on the manner in which it was presented. He thought he might very well pass those criticisms by, as he did not wish to occupy time with any personal defence. The formation of a Committee was a proposal of Dr. Rayner, but he, Dr. Brown, did not quite see what good it would do. If, however, such a Committee were appointed, he would be glad to be of what use he could. He had no proposal to make with regard to that Committee.

The PRESIDENT said that Dr. Cunyngham Brown having replied, the discussion

was now closed, and all that remained was to vote concerning the appointment of a Committee. The appointment of a Committee had been proposed by Dr. Rayner, but was not yet seconded. Before that was voted upon he thought the terms of reference should be submitted to the meeting. The Association could scarcely appoint a Committee at large without knowing what the Committee was to do or to inquire into, or upon what subject it was to make recommendations. There should be distinct instructions to the Committee.

Dr. RAYNER said the Committee should be appointed to consider and report upon the possibility of carrying out the resolution in England and Wales, and Ireland.

Dr. YELLOWLEES asked whether the resolution in its present form had been accepted by the Association.

The CHAIRMAN said the resolution had never been formally accepted by the Association, although it had practically been accepted, because no voices had been raised against it except on matters of detail. It would be well to put it now. The terms of it had been read, and members had it in their hands.

Dr. PERCY SMITH asked whether it had been seconded.

The PRESIDENT replied that it was seconded at the last meeting.

Dr. YELLOWLEES asked permission to speak to the resolution, but

The PRESIDENT said the discussion on it was concluded.

Dr. YELLOWLEES objected that the resolution had not been formally put to the meeting, and that was why he asked whether it had been approved by the Association.

The PRESIDENT said the resolution was proposed and seconded at the last meeting.

Dr. YELLOWLEES.—And accepted?

The PRESIDENT said it was not accepted, but it was proposed and seconded, and the discussion on the resolution had gone on and been wound up by Dr. Cunyngham Brown's reply. Perhaps he called upon Dr. Cunyngham Brown rather prematurely for his reply; it would have been better to give other members an opportunity of speaking. If Dr. Yellowlees had anything to say, the meeting would be delighted to hear him.

Dr. YELLOWLEES said he was sorry if he misunderstood matters, but he wanted to say very few words. Apart from the President's very notable criticism as to the Committee having no very definite work to do, he had a word to say by way of correction. Dr. Cunyngham Brown did not seem to be aware that there were other forms of family care in Scotland than the single patient care. In Scotland there were a large number of lunatics who were placed, under certificate of the Commissioners, in private families, not exceeding in any case the number of four in one family. That was a very important element in the Scottish boarding-out system. The author was contrasting the single system in Scotland with the segregating system elsewhere. With regard to the resolution itself, the single omission from it was that there was no indication of the kind of cases which were to be considered in connection with that family care. It spoke about suitable places being selected for the patients, but nothing was said about the sort of cases. To him the whole matter hinged on that point. There were some patients who would greatly benefit by family care, but there were many others whom it would not suit. The resolution should be amended to the extent of putting in the words "in suitable cases." He thought the suitability of the patient was, if possible, more important than the suitability of the home.

The PRESIDENT said the proper time for amendment to the resolution would be after the resolution had been put and carried, if it should be carried. It might be rejected altogether, and then there would be no occasion for amendment. He, therefore, asked for a vote in favour of the resolution, not in favour of the appointment of a Committee.

Dr. YELLOWLEES asked whether he might move an amendment.

The PRESIDENT said that could be done as soon as a decision had been taken.

The vote was then taken by voice, and the President declared that the Noes had it, and, therefore, the resolution fell to the ground, and no amendment to it was possible or desirable.

Dr. ELKINS said he did not think that some of the members quite understood what was before the meeting.

The PRESIDENT said, if that was really so, he would ask for a show of hands.

Dr. ROBERT JONES asked, as a point of order, whether the resolution could be taken before an amendment proposed and duly seconded was first disposed of.

The PRESIDENT.—Certainly.

A show of hands resulted as follows :

12 in favour.

19 against.

The PRESIDENT said that, such being the result, it would be out of order to put to the meeting the question of the appointment of a Committee, such appointment being clearly dependent upon the acceptance of the resolution.

THE NEW HANDBOOK.

The PRESIDENT asked the Treasurer of the Association, who was also the Chairman of the Committee for the Revision of the Handbook, to place on the table the result of the labours of that Committee.

Dr. HAYES NEWINGTON said, amid applause, that he had great pleasure in producing the new Handbook at last. He was glad of that opportunity, as it put an end to a good deal of work on the part of eight members of the Association. It was also necessary that it should be presented because the adoption of the new Rules was dependent on its production. The new Rules for the training and examination of nurses had been held up until that volume was produced; so that with its presentation those Rules could now come into force. As Chairman of that Committee, he had to say that no one of his colleagues had spared himself in any way, and he felt sure that the Handbook would be quite worthy of the Association. He begged formally to present it.

Dr. OUTTERSON WOOD said he thought that opportunity ought not to be allowed to pass without the meeting expressing its deep indebtedness to Dr. Hayes Newington and his Committee for the enormous amount of work which they had put into the revision of that Handbook. Only those who had followed the labours of that Committee could have any idea of the amount of work which it entailed.

Dr. PERCY SMITH seconded the motion with much pleasure.

The PRESIDENT said the Handbook, when applied to the purpose indicated by its name, would be found to be a portentous volume, and to convey more information on the subject of the nursing of the insane than any three previous productions on the same subject. It had been a work of very great labour, though no doubt a labour of love, to those who so successfully carried it through; and more depended upon the production of it before that meeting than at the moment met the eye. The Treasurer had already pointed out that the new rules for the examinations would not come into force, according to a resolution of the annual meeting, until that Handbook had been laid upon the table. Now that it had been so laid, those regulations could come into force at any time. He might mention that the Council had that morning determined to relegate to a Committee to consider very carefully the convenience of the Association, and the justice to candidates, of bringing the new regulations into force on a specific date. Such date would be chosen with very great care, so that no apprehension need be felt on that score. There had been many changes: two examinations were to be substituted for one, and the period of the curriculum extended by 50 per cent. The whole question was revolutionised, and all that depended on the production of the volume now presented. He would now put the resolution conveying a vote of thanks to Dr. Newington and his colleagues for the very great labour they had expended, over many months, in the production of the Handbook.

Carried by acclamation.

Dr. NEWINGTON.—I thank you, gentlemen, in the name of the Committee.

Dr. ROBERT JONES asked whether it would be possible, without taking up the time of the meeting unduly, to obtain from the chair a statement as to what was meant by the new regulations to which the President referred. Some members might require a little information just when the book was placed on the table, as the two appeared to go together.

The PRESIDENT said the new regulations were those sanctioned at the last annual meeting, when it was determined that the curriculum for the nursing examinations should be altered, and that two examinations should be substituted for one in future. In addition, the period of training would be extended from two years to three. All the particulars would be found in the JOURNAL.

RESUMED DISCUSSION ON DEMENTIA PRÆCOX.

The PRESIDENT called upon Dr. T. Johnstone to continue the discussion on the subject of Dementia Præcox (see p. 64).

Dr. T. JOHNSTONE said that those who had the good fortune to see the demonstration that morning by Dr. Stoddart must have been much pleased by the excellent cases he showed. He was glad his paper would deal chiefly with the psychology of the condition, and although the clinical symptoms could not be ignored, it was not necessary to give them great prominence.

Papers were then communicated by Dr. T. JOHNSTONE and Dr. STODDART. Following these an animated discussion took place, to which Drs. Bevan-Lewis, Bedford Pierce, Bruce, Bond, Clouston, Devine, J. F. Dixon, Hayes Newington, Middlemass, Menzies, Percy Smith, Savage, Seymour Tuke, F. R. P. Taylor, J. Turner, and Yellowlees contributed.

Dr. STODDART, at the invitation of the President, replied to the remarks that had been made in reference to his paper and clinical demonstration.

Dr. ROBERT JONES replied upon the whole discussion.

Dr. Elkins' paper on "Asylum Officials: is it necessary or advisable for so many to live on the premises?"

Dr. ELKINS agreed to the discussion on his paper being postponed for the present, and the meeting terminated.

Members afterwards dined together at the Café Monico.

Present at the Meeting of the Council, which was held at 1.30 p.m., Dr. Mercier in the chair; Drs. Adair, Aveline, Bond, Boycott, Fennell, Hayes Newington, P. W. Macdonald, Miller, Outterson Wood, Percy Smith, Rayner, Savage, Steen, Stoddart, and Wolseley-Lewis.

THE BOARDING OUT OF THE INSANE IN PRIVATE DWELLINGS

DISCUSSION AT THE ANNUAL MEETING, JULY 23RD AND 24TH, 1908.

Dr. MILSOM RHODES, J.P., said that about twenty years ago he was very much more in favour of the boarding-out system than he was at the present time. He heartily agreed with the colony system; he had seen it acting very well in many places, especially in America; but he feared that, though the boarding-out system might do in Scotland, it seemed absolutely impossible to make it work in England. The late Sir John Sibbald had told him a good deal about it, and he had been enquiring into the system in Scotland. Many of the boarded-out cases were boarded out in places like Fife, where there was a decaying industry. Linen weaving was formerly carried out extensively in Scotland, but it had now gone, leaving a large amount of spare space, where such patients could be accommodated. Besides in Scotland there was a far greater amount of supervision than in England. He ventured to say, from enquiries he had made in Britain and in Europe, that wherever there was that boarding-out system there must be thorough inspection. Otherwise the system must come to grief. He knew that in Massachusetts the system was not now being carried out as much as formerly. By providing colonies, in the way the author had pointed out, one did better than by boarding out. He felt sure that in England it was impossible to board out anything like a large proportion of cases; and it was better for the cases themselves that they should be taken care of properly in colony asylums, rather than in individual care. Some people made money out of boarded-out cases, and he counselled caution in establishing any such system.

Dr. ELKINS expressed his high appreciation of the paper. He did not at all agree with Dr. Milsom Rhodes's remarks. He was at present in charge of a London asylum in which the patients were incurable and harmless, and after a considerable experience in both Scotland and England he declared that very many of his patients would be better out of the asylum than in it. And it was quite feasible that such should be the case. He was first of all in Scotland, at two asylums,

where the boarding-out system was in active progress. He saw it at Greenock, and at Morningside, Edinburgh, with Dr. Clouston, and he became convinced as to the importance of doing it, from the standpoints of both the patient and the community. Since then he had been thirteen years in England, at two asylums as medical superintendent, and his views had been confirmed by that experience. He felt convinced that a mistake was being made in England by omitting to start the method. He did not know which particular form would be best in making the experiment, but in regard to Leavesden he believed that if, in the first instance, some members of the staff could take patients in their houses, a judgment could be formed on that. In other asylums it might be tried in a different way. The whole question was, as yet, in the experimental stage in England, and it might be found that the Scotch system was not practicable south of the border. Dr. Milsom Rhodes had expressed the fear that it might not be a good thing for the patients themselves to be sent out. He had had the pleasure of visiting the Scotch boarded-out patients with the present senior Commissioner, Dr. Fraser; he had also had many conversations with the late Sir John Sibbald, whom Dr. Rhodes quoted, and his own impressions were the reverse of Dr. Rhodes's. He was convinced that dementia was deepened by contact with dementia; that the patients became more imbecile by contact with each other. Speaking as the Medical Superintendent of a very large asylum, he was convinced that it was a mistake to herd such people together. He appreciated the fact that public opinion was more or less against the view he had expressed, but that was because Medical Superintendents in England had not tried to educate the public. He thought that they in England, more especially in the metropolis, were so big and so all-sufficing and self-satisfied in London and district that, from very bigness, it was impossible to cast the eyes further out and see and profit by what had been done in Scotland and elsewhere. He would be very glad to see a beginning made with the system, to see experiments tried. He felt sure that boarding-out of patients would come before very long.

Dr. MILSOM RHODES desired to offer a word of explanation. He was as strongly opposed as anybody to the great barrack asylums, and might claim to have done more in favour of the small villa system than perhaps anybody else. The danger was in boarding such patients out a long way off, where there was no inspection. He could point to cases in which grave cruelty had occurred under the boarding-out system. Nobody hated the great barrack asylum more than he did himself, and he had pinned his faith to the villa system, not to boarding-out.

Dr. CLOUSTON said he would like to offer a word or two on the question, as he believed he knew the whole genesis of the boarding-out system in Scotland, from the time when Sir James Coxe first visited the Colony of Gheel onwards to the present time. To some extent he looked upon the subject from an outside, judicial point of view. He thought he had seen the advantages of the boarding-out system, but he had never regarded it as an absolute cure for all the ills which the chronically insane were subject to. The obvious financial advantages were the saving of an enormous amount of capital expenditure, and a diminished maintenance rate. But if, as Dr. Milsom Rhodes said, the system was unsafe, they had no business to save money at the expense of the patients. To hear the remarks of some superintendents of asylums one would think that England was a very small place indeed, and that the conditions were very much the same in every part of it. That was not so. In England there were plenty of thinly-populated places, such as Wales, while in Cornwall there were no large cities at all. He did not accept the definition of England as a manufacturing city where patients could not be boarded out on account of excess of population. He maintained that in England there was plenty of opportunity of boarding out, and it could be carried out there if it was thought to be the best system. He quite agreed with Dr. Milsom Rhodes that the method required a good deal of supervision. It could be asserted that boarding out could not be safely done without it. And therein he thought Dr. Milsom Rhodes and others were needlessly afraid of the system; they thought that because, in certain places, it had been attended with cruelties and other disadvantages, there was a tremendous risk. But, after all, the risk was a question of degree, and with thoroughly good supervision and good guardians it could be worked very well. It was necessary first to select the guardians, and then lay down strict rules for those guardians. Then the supervision should be carried out from some place near, and the local doctor would look in from that place. He was inclined to agree

with Dr. Elkins that contact with demented patients led to increased dementia, and that, given a suitable case and a suitable guardian, the environment which could be secured under that system produced a greater degree of happiness in the patient, rendering him less insane than he was in the asylum. If all those things were done, it went without saying that boarding out was a first-rate system, and should be initiated in England. The Commission appointed to inquire into the care of the feeble-minded and imbecile had not yet reported, but he understood that when the Report did come out it would include strong recommendations in favour of boarding out for suitable cases. He did not at all deprecate the cautions which Dr. Milsom Rhodes uttered; his own advice was to exercise all the caution and precautions possible. When that was done the system would be found to be a very good one, and would result in the saving of much money.

Dr. McDOWALL desired to offer a few words in support of the idea of boarding out a certain percentage of the cases which had accumulated in county asylums. He was certain, from both his Scottish and his English experience, that a very considerable proportion of the pauper lunatics might be boarded out in private dwellings. He would specially call attention to one great advantage, namely, their increased happiness. It was well known that when people were detained in an asylum their one cry and desire was to get home, and it was a very natural desire. Their associations with a particular district made certain spots in it very dear to them. And, in suitable cases, nothing so improved a chronic lunatic and increased his personal happiness as returning to his native place. He most heartily approved of the idea of reducing the population of asylums by boarding suitable cases out.

Dr. RAYNER said the experience of Scotland in the last forty years was such an irrefragable proof of the advantage of the system of boarding out, that one could say nothing to add to the arguments in favour of it. With regard to the objection which had been raised to it on the score of the failure of supervision, the necessary supervision should be found. It had been found in Scotland, and therefore he did not see why it should not be found in England. He thought the great reason why they in England were so frightened of it was feebleness in point of numbers, and therefore of working power of the Lunacy Commissioners. If the English Lunacy Commission had been numerically adequate to its duties, he thought they would have seen their way clear to urge on the various asylums and governing bodies the desirability of establishing more boarding out, and he hoped that before the subject was left that day a resolution would be moved asking the Council of the Association to appoint a Committee to consider in what way they could urge, in England, the adoption and development of that most valuable and important means of treatment. The system was, in his opinion, good, whether it was considered from the point of view of the patients, or from the standpoint of public economy, as Dr. Clouston had so ably pointed out.

Dr. SANKEY said he felt great diffidence in addressing the meeting, as all his hearers were much greater authorities on the subject than he was. But he had studied the question under discussion, and it seemed to him that, in endeavouring to board out patients, they were commencing to reverse the process which had been carried out for a great many years till the present day, which had been to certify every person who was certifiable, and place them in asylums, and keep them there. He thought it would be a very good thing to reduce the number of patients in all county asylums. (Hear, hear.) He did not think it was possible for any man, however clever and however eminent in his profession, to treat 2000 patients as he would wish to treat them. And if asylums were too big, there were only two ways of reducing their population, as far as he could see. One was to send out those chronics who were incurable and board them out, and the other—which would be better—was to increase the recovery-rate. He saw no method of reducing the number of pauper patients in asylums except by boarding out; unless there were provided separate asylums for acute cases, using the present asylums simply for the accumulation of chronics, for which they were already largely used. Boarding-out was a procedure which he thought England might very advantageously copy from Scotland.

Dr. HAYES NEWINGTON said he thought it a pity there was an idea, as there seemed to be, that boarding-out was definitely either good or bad. It was regarded as a sort of bone of contention, one side saying all that was good of the system, and the other all that was bad. The truth lay between the two. In certain cases the

system was bad enough. There could be no question that in Invernesshire it was good, whereas in Sussex, he felt sure from his own personal experience, that it would be difficult to board out an adequate number. He had seen it stated that in the north of Scotland, and in Scotland generally, the terms which could be offered for receiving these patients were so small, and the margin so narrow, that a good deal of work was expected from them to enable the people in charge to keep him. If that was so, then at once there arose a question in considering who should be sent to board out. An old woman could not be sent, because she could not do work; and that narrowed the field of selection. It would be a very good thing if, as Dr. Rayner suggested, a Committee of the Association could be appointed to study the question thoroughly, to look at it as a matter of theory, not only in regard to one locality, but all localities. Supervision was talked of as necessary to provide against ill-treatment, but it could not be had without a large annual expense, which would go to reduce that saving in capital cost which Dr. Clouston rightly made a point of. He seconded Dr. Rayner's motion for the appointment of a Committee of the Association to study the matter.

Dr. DAWSON said that in Ireland, for some years past, a good deal of consideration had been given to the subject. It was of particular importance to them, because in that country there was rather less money than on this side of the Channel, and there were also more lunatics in proportion to the population. Hitherto they had tried to accommodate their lunatics either by building large asylums or increasing the size of the existing ones, or, in one instance, by modifying and adapting an old building for the reception of such as were harmless and not troublesome. Therefore any method which promised efficient treatment of the insane, together with relief to the ratepayer, was to them in Ireland of even more importance than to those on this side of the Channel. Their late friend, Dr. Conolly Norman, went into the subject fully, and he was definitely convinced of the necessity and importance of establishing some form of family care for the insane, such as were harmless and chronic. Some years ago a conference of asylum officials in Dublin, at which were assembled some of the ablest men belonging to the different asylums committees throughout the country, passed unanimously a resolution in favour of it, and called upon the Legislature to legalise it, so that it might be tried. That step had not yet been taken, but from the feeling in the country he could say it only awaited legalisation before it was tried. Many people, among those who knew best, were doubtful of its success, on account of the condition of the peasantry in Ireland. And he thought it must be said that there were parts of Ireland, such as Connaught and the West, where the conditions were too unfavourable and uncomfortable to allow of boarding-out, as practised in Scotland, being carried out with prospect of success. There were other parts, such as the North of Ireland (where there was a decaying weaving industry, such as had been alluded to in Fife) and along the east coast generally, especially in co. Dublin, in which there seemed a good prospect of some form of boarding out being attended with success. With regard to the Dublin district, a somewhat analogous system of family boarding-out of workhouse children had been adopted with great success for many years; and if those children could be properly looked after, under supervision, there was good reason to hope, at all events, that the older people, *i. e.* harmless demented, would be equally well looked after in such homes. In Ireland, therefore, opinion was in favour of trying the experiment. But he thought it was a mistake to speak only of boarding-out. Dr. Brown's paper dealt with a number of forms of family care, yet many speakers had spoken as if boarding-out was the only form of care which could be adopted. He thought it was possible to bring all parts of Ireland under the operation of some form of family care, simply varying the system according to the social conditions of the neighbourhood. For instance, in places like Dublin or the eastern counties of Ulster, where there was a considerable standard of comfort, ordinary boarding-out, such as that employed in Scotland, might be tried, whereas in the poorer counties it would be possible to place some of the insane in the families of married attendants and others living near the asylums. It did seem as if, in one way or another, family care could be adopted, varied in different parts of the country according to the standard of social comfort and other circumstances. He had been greatly pleased to hear what Dr. Clouston said about the probable recommendation of some such system by what had come to be generally known as the "Feeble-minded Commission."

Dr. HUBERT BOND said he was in sympathy with Dr. Cunyngham Brown's contention, and would always be willing to give the system a trial if opportunity were afforded. There were, however, a number of items in the paper which he did not think ought to be allowed to pass without a friendly challenge. For instance, Tuke's remarks were quoted, but they were twenty years old, and he doubted whether Tuke's strictures were now deserved. Individual treatment was a somewhat vexed question, but his feeling was that in the modern asylum, where an effective and proper classification was maintained, individual treatment was as easily attained as in the case of ordinary hospitals attached to the great medical schools. Then with regard to overcrowding, it existed to some extent in a few asylums, but in quite a small minority. As to extravagance in construction and equipment, certainly the authorities in the case of the asylums with which he was personally familiar had striven, with unabated efforts, to construct and equip them as cheaply as possible. Any comparatively expensive articles of hospital equipment existed specially for the recoverable cases. Statistics were always dry things, but he could not allow those now used to pass unchallenged. The statement that the recovery-rate in asylums was declining might be capable of various explanations, but he would be a bold prophet who would with any confidence foretell a real increase in it by the abstraction of a number of chronic patients. "Enormous death rates" had been spoken of, but he was not aware of any asylum where such a term could be fairly applied, and he regarded as very fallacious the attempted comparison between the death-rate of those "boarded out" and that of the residual asylum population. Those comments were offered in all friendliness, but he did not think the forefront of the paper should go unanswered, although he was in entire sympathy with the aim of the paper.

Dr. YELLOWLEES said it was true that it was not a warfare between two opposite camps, because in the main the various speakers were agreed. There were certain things absolutely necessary, and all would agree about that. Firstly, the person to be boarded out must be a suitable person for boarding out, and must not have proclivities which would make him dangerous to those into whose home he was received. And equally important with the selection of the patient was the selection of the guardian. As a matter of fact, he knew that in many of the houses the boarder was treated as a member of the family to all intents and purposes, and a great deal of mutual regard and affection sprang up between them; when by any chance the boarder was taken away the same family wanted another boarder like Willie or Mary, as the case might be. He was sure that, in favourable cases, boarding out answered very well, and it would be a great calamity if the 2500 patients boarded out in Scotland were to be sent back to the asylums. It would be a great hardship to the patients, and a great and needless burden on the ratepayers. He was sure that what Dr. Clouston said was true, that the lunatic living outside the asylum with a family was a happier being than the same lunatic in an asylum, mixing with demented companions. No one who had known patients in both circumstances would doubt this. There was also another question, which Dr. Hayes Newington had pointed out; the success of boarding out depended very much, indeed, upon the locality and upon the amount of money in it. For example, Wales had been mentioned as a boarding out ground. That might be true in North Wales, where there was not a dense population, and where there was freedom and friendliness among the villagers. But in South Wales, where there were large numbers of men earning high wages, it would not be practicable, because the people would not take such boarders. That factor was not usually taken into account sufficiently; and he was sure that in many of the wealthy counties of England the people would refuse to receive such persons into their homes. But he believed there were other districts, such as Dorsetshire, where any number of patients could be placed. It was said of some places that the difference between the patient and the guardian would not be very great, as both would be so slow. Dr. Clouston was right as to there being, under such treatment, a great and important saving of money, and that supervision could be perfectly and efficiently carried out, partly by the Commissioners in Lunacy and partly by the officers of the Parish Council, who, with a large experience among the poor, knew very well how they should be treated. They were in the habit of boarding out their non-insane paupers, and could therefore work on similar lines to board out their insane folk. The supervision in Scotland was, he believed, exceedingly good, and

cases of crime, fault, or accident were very rare among them there; so that, in Scottish experience, it was a thing to be very much commended. He thought that 25 *per cent.* of chronic lunatics were better and happier, as well as more cheaply cared for, by being boarded out or put under family care than if they were kept in an asylum. He admitted both the difficulties and the possible dangers, and the necessity for supervision, which, he still thought, would not be anything like as costly as the Treasurer, Dr. Newington, feared. But it was not a question for absolutely positive views. Very much depended on the locality and on the wisdom with which patients were selected for it, as well as on the care with which the guardians were chosen. The idea of establishing colonies of insane folk was another matter altogether, and of that there was in this country no experience available. That our asylums are far too large was absolutely true, and if only a beginning could be made *de novo* a very different scheme would be chosen. All populous centres would have a small Mental Hospital or Cure Asylum specially equipped with every appliance which would assist recovery. As soon as it seemed likely that a patient would not recover he would be sent off to another Institution if unfit for family care. This second Institution, the Chronic Asylum, should be plain and cheap, capable of indefinite extension, and surrounded by very ample grounds for outdoor labour. Much has been gained by the removal of the hopeless demented to a branch asylum at a considerable distance from the parent Institution, as has been done at Glamorgan. The retention of such cases in our costly County Asylums is sheer extravagance, and tends to interfere with the proper treatment of new cases.

The PRESIDENT said that at present there was no seconder of the resolution, but he thought it would be better that the proposer should consider the matter and bring it up again on the following morning with the terms of reference definitely settled and set forth if the project to appoint a committee were pursued. If not, the debate would be considered to be at an end.

Dr. HAYES NEWINGTON seconded the resolution.

Dr. YELLOWLEES said he did not think it was necessary to reconsider the matter. It had been very adequately put before the meeting.

Dr. ROBERT JONES demurred to Dr. Clouston's suggestion that Wales was a very suitable place to which to send chronic lunatics. South Wales had been excluded by one speaker, and he, Dr. Jones, claimed to know something of North Wales, which was absolutely unsuited for the reception of such cases, because there was a dearth of cottages and proper habitations from one end of North Wales to the other. If chronic lunatics were to be boarded out, he thought the accommodation for them should be something better than was at present available. In those parts where there was good housing, visitors flocked from various parts of England during certain seasons.

The debate was adjourned until the following day.

July 24th.—The PRESIDENT expressed his regret that Dr. Cunyngham Brown was not present that morning, as he hoped that gentleman would have had an opportunity of replying to the criticisms which were made yesterday on his paper. He did not know whether Dr. Brown had deputed anybody to submit the terms of reference to the Committee.

Dr. RAYNER said he wished to bring forward a recommendation that a committee be appointed to consider the practicability of extending home care in England and Wales, the committee to consist of two members appointed by each of the Divisions, with power to add to their number. And that Dr. Cunyngham Brown act as convener and secretary of the Committee.

Dr. DRAPES seconded, and asked why Ireland was excluded. Ireland should surely be included.

Dr. DAWSON said Ireland should be included.

Dr. RAYNER said he was quite willing to amend it by adding Ireland, but it already said the Committee had power to add to their number, and they could be added from any part.

The PRESIDENT said the motion now stood—"That a Committee be appointed to consider the practicability of extending home care of the insane in England,

Wales, and Ireland, the Committee to consist of two members appointed by each of the English and Irish Divisions, with power to add to their number. Dr. Cunyngham Brown to act as convener and secretary of the Committee." He asked whether Dr. Brown had consented.

Dr. YELLOWLEES said the appointment of such a Committee was a very serious matter, because it implied that the members of it must wander about the country a good deal and see the conditions in various places. He was sure that if the Treasurer was asked he would shake his head and say it meant the spending of a lot of money. He, personally, thought money might be well spent if the time was ripe for doing it. But the Association should know it was entering upon a big thing, because it meant travelling about the country and examining the various social conditions. Certainly it would make large demands on the time of the men who were doing it.

The PRESIDENT said it seemed clear that no such undertaking as Dr. Yellowlees spoke of could possibly come within the scope of the Association. That would be work for a Government Committee. It could not possibly be done by that Association, as it would entail travelling about the country to determine what areas were suitable. Members had neither the time nor the means at their disposal for that.

Dr. MILSOM RHODES asked whether the matter could be allowed to stand over until the Commission on the Feeble-Minded reported, the first week in August. He knew that Commission had taken a lot of evidence on the point.

Dr. YELLOWLEES said he supposed the conditions for boarding-out feeble-minded children would be very much those for boarding-out the chronic insane.

Dr. RAYNER thought it would be better to delete that part of the resolution which referred to the appointment of Dr. Cunyngham Brown as convener and secretary. The seconder of the resolution was agreeable to that.

The PRESIDENT said the terms of reference as drawn would clearly imply a very extended inquiry. He did not see how any Committee of that Association could possibly consider the practicability of extending the home-care of the insane in England, Wales, and Ireland. If they sat in a committee room and evolved the matter out of their own consciousness, they could only make a recommendation in the air. It was quite impracticable for them to visit largely and travel about the country; and that was the only way to determine the matter with any sort of finality. He suggested that the terms of reference should be drawn somewhat differently, so that the Committee might consider, not the practicability of extending the home care, but the measures that had been taken or recommended hitherto for the home-care of the insane, and to consider what additional measures should be taken to have the matter investigated, because the Association could not investigate it. But if it was found that the Royal Commission on the Feeble-minded had not dealt with the matter adequately, it would be open to the Association to approach the Government and have inquiry made. Clearly it seemed premature to make any inquiry or any recommendation of their own until they learned what was the report of the Commission on the Feeble-minded.

Dr. RAYNER said he thought the idea was that that Report would shortly come before their notice, and it would then be necessary to consider whether they could aid in any way in carrying out the recommendations which it made, and that the proposed Committee would deal with that. Of course the Committee could not do what was beyond its power, and he thought that to take up the whole question of inquiring how people could be lodged here and there throughout the country would be beyond its power, and the Committee would at once say so. Giving the Committee the widest power of considering it would also give them the power of rejecting anything they felt they could not do.

Dr. HAYES NEWINGTON said he did not see what harm there could be in the Association considering the question on its original merit. He was sure that a thorough investigation, honestly carried out by the Association, would be valuable.

Dr. ROBERT JONES said it seemed a little premature for them, as an Association, to be formulating a Committee for which probably there would be no necessity. He was sure it was much better to wait until the Report of the Commission on the Feeble-minded was issued. That Commission had been abroad, to Scotland, and to many places, and it had taken a great deal of evidence. It was not yet known what that evidence consisted of or what it showed, and to appoint a Committee was a leap in the dark at present. He asked whether the proposer and seconder

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would agree to the decision on the matter being postponed until the November meeting.

Dr. MACDONALD said he had great pleasure in seconding Dr. Jones' suggestion, as an amendment.

Dr. BOWER said he thought it a matter which was likely to be reported upon by the Commission on the Feeble-minded; and when that Commission reported, a very comprehensive committee would be required to go into the subject-matter of the Report.

Dr. RAYNER asked whether it would be wrong to refer the question to the Parliamentary Committee.

The PRESIDENT said he could not take that amendment as there was one amendment already before the meeting.

The resolution to postpone the further consideration of the matter until the November meeting was carried.

SOUTH-EASTERN DIVISION.

THE AUTUMN MEETING of the South-Eastern Division was held by the courtesy of Dr. Elkins at the Metropolitan Asylum, Leavesden, on October 6th, 1908. Among those present were Drs. D. Hunter, T. D. Greenlees, H. Kerr, A. Dove, Josephine Brown, F. A. Elkins, H. B. Ellerton, P. E. Campbell, Wolseley Lewis, C. H. Fennell, F. H. Edwards, J. W. Higginson, R. J. Stilwell, A. N. Boycott, G. E. Shuttleworth, Robert Jones, H. E. Haynes, J. F. Dixon, G. H. Johnston, Mary Edith Martin, F. W. Mott, T. O. Wood, C. H. Bond, A. Newington, and R. H. Steen (Hon. Sec.).

The visitors included Rev. A. E. Clark, Drs. Slattery, O'Brien and J. C. Mead.

Apologies were received from the President and other members.

The members visited the wards, Nurses' Home, and other parts of the Institution. In the recreation hall plans were exhibited by W. T. Hatch, Esq., M.I.C.E., M.I.M.E., Engineer-in-chief to the Metropolitan Asylums Board, and in the same building several most interesting cases exemplifying the rarer forms of congenital defect were to be seen.

At 1.30 p.m. luncheon took place, and at the termination of this Dr. Robert Jones proposed a vote of thanks to Dr. Elkins for so hospitably entertaining the Division.

The General Meeting was held at 2.45 p.m., Dr. Robert Jones in the chair.

The minutes of the last meeting having appeared in the JOURNAL were taken as read and confirmed.

The invitation of Dr. Pasmore to hold the Spring Meeting of the Division at the Croydon Mental Hospital on April 27th, 1909, was unanimously accepted with much pleasure.

COMMUNICATIONS.

Dr. F. A. ELKINS read a paper entitled "The Metropolitan Asylum, Leavesden : some notes on recent changes."

In these notes it will be convenient to limit the subjects dealt with to four : (1) the living out of the staff, (2) the change in the character of the patients received, (3) the reduction of the tubercular death-rate, and (4) the structural and estate changes. It is proposed that the living out of the staff shall be more fully dealt with than the other subjects.

The Living Out of the Staff.

In a paper read at the Annual Meeting it was urged that after the hours of duty are over, as many officials as possible should be altogether freed from institutional restraints. The so-called "indoor" staff of an asylum may be roughly described as consisting of—first, those who may be and generally are required to board and

lodge within the institution, such as attendants; and second, those who are usually required to take meals only in the asylum, such as bakers and stores porters. The table below shows what has happened to the "indoor" staff at Leavesden, which it may be remarked, has largely increased in recent years.

"Indoor staff (exclusive of Medical Superintendent, 3 Assistant Medical Officers, Matron, and Steward)."	Board and lodge in asylum.	Board and lodge out of asylum.	Board in, but lodge out of asylum.	Total.
Head Day Attendants	—	2	1	3
Head Night Attendant	—	1	—	1
Day Attendants	24	58	—	82
Night Attendants	—	19	—	19
Assistant Matron and } 3 Superintendent Nurses }	4	—	—	4
Head Day Nurse	1	—	—	1
Head Night Nurse	1	—	—	1
Day Nurses	71	22	3	96
Night Nurses	16	8	—	24
Assistant Steward and Clerks	—	4	1	5
2 General Porters, } 1 Hall Porter, } 1 Fireman, } 3 Stores Porters, } 5 Kitchenmen, and } 2 Bakers }	1	13	—	14
1 Head Laundress, } 13 Laundrymaids, } 1 Cook, } 1 Messroom Maid, and } 6 Housemaids }	13	8	1	22
Totals	131	135	6	272

It must be pointed out that Leavesden is more favourably situated for officials living out than are some other similar institutions, on account of the close proximity of two villages containing numerous cottages. On the male side, where there is a night attendant in each room where patients sleep, the only attendants sleeping in the asylum are the twenty-four who form the fire brigade. These sleep in bedrooms scattered throughout the building in case of fire, and it is so arranged that each night attendant has at least one day attendant within easy call in case of any emergency. The only other male subordinate official sleeping in the asylum is the fireman. Every other male subordinate official, whatever his rank, sleeps out, receiving either money in lieu of lodging (6s.) or else occupying a cottage on the estate. They also receive 9s. in lieu of board, being allowed one hour for dinner, and half an hour each for breakfast and tea. It may be asked what has become of the rooms formerly occupied by the male staff? Nine opening off the wards are now occupied by patients. But it must be explained that the proportion of male staff sleeping out has been large for years past, and also that the staff of attendants has largely increased in recent years, so that it became a question whether new quarters should be erected or whether more men should be allowed to live out. When the male staff began to live out in augmented numbers, it was thought impossible that the neighbouring countryside could house so many, and the Metropolitan Board decided to build, and has built, twenty-two new cottages on the estate for married attendants with a view to partly meeting the anticipated want. Yet before these cottages could be erected over seventy male officials were receiving money in lieu of lodging—nearly all of them married men—and all of them did actually find house accommodation in the neighbourhood.

though some of them needed the use of a bicycle to come to work. In other words, the local builders and householders met the demand. In order that all the new asylum cottages should be kept occupied, it was found necessary to make special arrangements with the additional attendants allowed to live out, the understanding being that they were to occupy the cottages instead of receiving money to rent houses they might desire. In the paper read at the Annual Meeting the disadvantages of asylum cottages were pointed out. The Rev. Arthur Parnell, the Vicar of Abbots Langley, the village in which most of the married attendants reside, writes: "I am strongly of opinion that the best thing for the married asylum attendants is to live as ordinary individuals in a convenient town or village, that they should, when their work is done, be as other parishioners, that they should take part in and interest in the place in which they live, and that they should leave their work and its surroundings behind when their work is done. I can only say that the married attendants are some of the best and most respectable of the parishioners here. On the other hand, I think the barrack life, putting attendants and their families all to live together in a kind of compound is bad. The men never get away from the associations of their work, and they have no associates or companions apart from those similarly employed with themselves. In the same way the women and children never get away from the asylum life, and it seems to me that the individuality of the home is greatly destroyed. I quite agree that some of the best homes in Abbots Langley are those of your attendants, and I do like to see people taking interest and pride in their homes as though they were their own, and not as mere official residences. Anything that destroys this free intercourse with other people, and makes them and their families live as a class apart, I am sure, is bad." It has been suggested that the night staff living outside will not take proper rest, and therefore will not do their duty properly. On the contrary it may be doubted whether any asylum could show a more healthy or reliable male night staff than Leavesden. They number, counting all ranks, twenty, and the average duration of their service up to September 30th, 1908, was twelve years and five months, no male night attendant having less than five years and eight months' service. Seventeen other male officials—bakers, stores porters, and the like—who formerly lodged out, but boarded in, now take money in lieu of board, their messrooms being at present used as accommodation for five attendants. One effect of so many officials living out has been a great increase in the proportion of married, and therefore settled officials. For instance, of the eighty-one attendants of all ranks living out, more than seventy are married, and as to the remainder, the chances of their remaining single are very slight! Another effect has been to decidedly increase the length of service of those on the staff. It has been shown that the average length of the service of the night attendants was twelve years and five months, and among the day attendants of all ranks living out (61) the average length of service up to September 30th, 1908, was nearer eight than seven years. This average length of service would have been greater but for the considerable increase in numbers during recent years.

Turning now to the female side, there are twenty-five day nurses, eight night nurses, and nine laundry maids sleeping outside the asylum, most of whom also board out, the allowances being 6s. *in lieu* of lodging and 8s. *in lieu* of board. No less than sixty-six beds have been gained for patients by taking over a large nurses' sitting-room and a number of nurses' cubicles and bedrooms. Of the forty-two female officials who lodge out more than half (23) live with near relatives, and the rest (19) are lodged in the houses of present or former officials or in other suitable accommodation, many of them being of long service. The first female, a charge nurse of long service, started to live out with her mother in August, 1905, the number being gradually increased as the success of the experiment was demonstrated. It was an evolution, not a revolution. Already in this short time it can be shown that the length of service of the female staff has increased on account of the living out. Two mothers have moved into the neighbourhood in order to lodge their daughters, and one of these has taken other nurses into her house as lodgers. There has been no difficulty in finding suitable lodgings. Several of the nurses say that the heavy feeling they had in the morning when in the asylum is gone, and that they eat and sleep better. They certainly look happier and healthier. Owing to the increase in infirmary patients the female staff has much increased in recent years, so that a nurses' home to accommodate forty-two

nurses was built, but this was ultimately not found to provide sufficient room for the increasing staff. Hence the successful experiment of lodging out some of the female staff happily got over the difficulty of building an addition to the nurses' home. Through the dark days of December and January it was thought by some that the nurses who lived outside and had to be in by 6 a.m. were sure to be late on duty, and that they would beg to sleep in again; but these fears proved groundless. The living out of the female staff cannot be pushed so far as with the men. It would too, of course, be foolish to leave vacant the accommodation at present provided for the female staff in order to allow officials to live out. It may, however, be pointed out that it would not require great additions or alterations to make the nurses' home into a villa residence for patients of a suitable kind paying a moderate board, a class of the community badly provided for in England.

Dealing now with the financial side, the economic gain has been considerable. For the male patients, nine additional beds, and for the female patients sixty-six additional beds, have been provided; five additional beds for attendants have been provided by taking over disused messrooms; there has been some saving on food, for the allowance given *in lieu* does not quite equal the cost of providing food in the asylum; there has been saving in the laundry, as the eighty-one male and forty-two female outsleepers get their washing done at home or in their lodgings; and the services of the messroom man and the assistant cook have been dispensed with. One laundry maid was also dispensed with for a time, but, on account of the increased number of infirm patients, the post had again to be filled. The whole cost of building additional quarters for officials has been saved, but, on the other hand, the allowance *in lieu* of lodging, washing, and, incidentally, medical attendance must be debited.

Careful records over several years have shown how little there is in the argument that officials living out will introduce infectious diseases into the institution. Leavesden in recent years has been remarkably free from infectious trouble, and the visits of patients' friends, many of them slum dwellers, are much more likely to introduce communicable disease into an asylum. The times of the staff going off and coming on duty have been regularly taken by the gate-porter, and there has been no real difficulty as to time-keeping. The privilege of going home to meals and sleeping at home is too great to be lost. Officials have been fined for being late, the fine being deducted from good-conduct money; and the services of one man, persistently late, have been dispensed with. During the past ten years and more, since the writer has been medical superintendent of this asylum, one official has been detected stealing food, and he was a kitchen man, who received his meals in the asylum. Though the man received meals in the asylum, this did not prevent him stealing food. The case is mentioned because it has been seriously urged that, when officials are given money *in lieu* of board, they will be likely to steal the patients' food. Among a large community there will from time to time be discovery of theft, but the elaborate precautions taken when issuing food from the stores, and the constant supervision of supervising officers, should soon detect thieves, and detection means dismissal. The large army of persons engaged in the manufacture and sale of eatables are not necessarily, in consequence of their occupation, required to take meals where they work, and surely asylum officials are as trustworthy as other classes of the community. There are several of the female staff to whom the idea of living out is not attractive. They have no relatives or friends in the neighbourhood, and would dislike to go among strangers. For such, boarding and lodging in the asylum is undoubtedly best.

The Change in the Character of the Patients received.

As previously described by the writer, the Metropolis supplies Leavesden Asylum with the most miscellaneous collection of human wreckage. No patient under sixteen years of age is admitted, so that no children are found in the wards, and patients dangerous to themselves or others are not supposed to be admitted, and cannot be retained, the staff not being sufficiently numerous or the institution adapted for the care and treatment of suicidal and dangerous patients. The large majority of the patients admitted are in weak or very weak bodily health, and it has been rare to admit a man or woman capable of doing work. There are received numbers of restless, broken-down, senile cases, many epileptics, general paralytic

men and women of the demented type, demented drunkards in an exhausted state after years of drinking, imbeciles and idiots of all kinds except those capable of work, cases of circular insanity and recurrent mania, paralytic and other nervous cases, patients with advanced bodily disease, and some mental symptoms super-added, crippled and deformed people with minds full of suspicions, cranks and delusional cases, odd cases which cannot be included, without an act of mental reservation, in any of the tables prepared by the wisdom of this Association, and some years ago a small proportion of curable cases, amongst whom may be mentioned some alcoholic cases, some climacteric cases, and some other cases of mania, melancholia, and stupor. The London City and County Asylums have sent some of their demented and oddest patients, certifying them incurable, harmless, and suitable for Leavesden.

The institution was never intended for such cases. It was built for able-bodied imbeciles, and valiant endeavours were at first made to stem the torrent of helpless admissions. Patients over seventy were not to be admitted, but octogenarians arrived nevertheless, their reputed ages, according to the admission papers, being sixty or thereabouts! Infirmary patients were not to be admitted, but this did not prevent the admission of helpless patients. All was in vain. The logic of fact had to be faced, and the asylum had to be turned into an institution for the reception of mental cases with marked bodily infirmity. It is the character of the recent admissions which is the keynote to most of the administrative, structural, and other changes which have occurred at Leavesden during the past decade and more.

During recent years and more especially this year another unexpected development occurred. In order to make room for a large number of youthful unimprovable imbeciles for whom accommodation had to be found owing to the changes at Darenth Asylum, and to the closing of Belmont Asylum, many of the oldest and most infirm patients have been transferred to Tooting Bec Asylum, and once more we have a considerable sprinkling of youthful but helpless patients.

The reduction of the Tubercular Death-rate.

The following table gives particulars as to the tubercular death-rate during the past ten years:—

Year.	Average number of patients resident.	Deaths from all causes.	Percentage of post-mortems.	Tubercular deaths.	Tubercular percentages.
1898	1986	194	32.5	55	2.76
1899	1952	250	52.2	73	3.74
1900	1905	310	84.0	104	5.46
1901	1772	164	90.0	67	3.78
1902	1768	134	94.0	43	2.38
1903	1752	131	96.9	34	1.94
1904	1751	158	94.0	53	3.02
1905	1776	126	90.5	44	2.47
1906	1782	127	97.0	40	2.24
1907	1817	151	95.3	37	2.03

The value of the above statistics is much lessened because of the changes in the character of the admissions just described. The large number of deaths in 1898, 1899, and 1900 will be noted. In 1900 a severe outbreak of influenza resulted in many deaths. The percentage of *post-mortem* examinations has been high since 1900, so that the tubercular percentage since that date is known fairly accurately and has been diminishing, though there was an unaccountable rise in 1904. In dealing with the problem as to what should be done to reduce the tubercular death-rate financial considerations had perforce to be studied, and very naturally it was asked, "Shall more be done for the most hopeless mentally than is done for sane tubercular patients?"

Amongst the means taken to reduce tuberculosis in the asylum may be mentioned the following:—The tubercular patients have been segregated, each patient being given 100 square feet of floor space; active tubercular cases have not been allowed to attend the chapel and recreation hall; throughout all the wards ventilation has been improved by replacing a certain number of old windows by others, admitting more air and allowing cross ventilation; the ground-floor infirmary wards each have an additional door opening direct into the garden, which much improves ventilation, and allows bed-ridden patients to be carried outside in favourable weather; shelters have been erected in many of the gardens; suitable paths have been made round the estate for those capable of walking; the floors of the wards instead of being scrubbed are now all dry rubbed; by improving the ward grates, the heating apparatus, a constant danger where tuberculosis is prevalent, has been entirely removed; although the great cost stood in the way of plastering the walls of the wards each ward is now thoroughly cleaned down at least once a year; trees and branches which prevented direct sunlight and air getting into the wards have been cut down; the clothes from the tubercular wards are washed separately in the laundry in what is practically a disinfectant; all mattresses, before being pulled to pieces and re-made, are disinfected by steam; the old upholsterers' shop, which was badly placed and badly ventilated, was replaced by a new and very sanitary one, but lately, owing to the lack of patients able to help, all mattress-making has been transferred to Darenth Asylum; every cow passes the tuberculin test before being admitted to the herd; all the milk is sterilised in an Aymard's steriliser; and lastly, no patient suspected of tuberculosis is allowed to work at the farm buildings. The Board also agreed to build bridges between the blocks to minimise danger from fire, and in order that bed-ridden, feeble, and tubercular patients on the upper floors could easily obtain fresh air without going up and down stairs. Unfortunately, the Local Government Board objected to the scheme on the score of expense.

The Structural and Estate Changes.

Leaving altogether out of account a large number of improvements and additions, the following may be specially mentioned:—The conversion of blocks 3, 4, 5, 6, 7, 8, 9, 10, and 11, each originally consisting of a day room and two dormitories intended for 160 able-bodied patients, into three floors of infirmaries, making twenty-four wards in all, with over fifty beds in each; the erection of an isolation hospital, a nurses' home, an upholsterer's shop with disinfecting rooms and appliances, a boot room, twenty-two cottages for attendants, and a mortuary building, consisting of a *post-mortem* room, laboratory, visitors' room, and a room for the storage of dead bodies; the entire re-arrangement of the laundry; the examination of the whole drainage system, and the relaying of any defective drains then found; the erection of additional sanitary annexes to many of the blocks, and the renewal where necessary of the older sanitary fittings; the provision of a water main all round the building with an attached pump and extra appliances for use exclusively in case of fire; the alteration of large numbers of the ward windows to improve the ventilation; the erection of a water steriliser and softener; the provision of rustic shelters in many of the gardens; the purchase of sixty acres more land which is being used for the disposal of sewage, and upon which a second cemetery has been formed; the repair of all the main roads on the estate; the provision of telephones and fire alarms throughout the institution; the laying out of proper paths around the estate and the levelling of a new recreation field; the provision of better fire-grates in the wards, and the removal, except from the corridors, of the old heating apparatus, which was costly to work, ineffectual, and dangerous to health as a collector of dust and a distributor of germs. Lastly, the state of the grounds and the gardens, which has often been favourably commented upon, is due to the fostering care of Colonel R. Webb, an ex-chairman and still a member of the Leavesden sub-committee, who has planted many flowering and coloured shrubs and trees, which should keep him in remembrance at Leavesden Asylum for many years to come.

This necessarily condensed list shows only imperfectly what the Metropolitan Board, guided by the institution sub-committee, whose present chairman is Colonel J. Goldie, has accomplished in converting the asylum into what it is yearly more and more becoming, an *infirmary* for incurable mental defectives.

Dr. ROBERT JONES congratulated Dr. Elkins upon the excellent administrative appearance of those parts of the Asylum they had been privileged to visit that morning. There was everywhere evidence of sympathy, care and interest, both patients and staff seemed fully to appreciate the consideration shown to them. He was greatly struck by the new departure made by Dr. Elkins in allowing his nurses to sleep and board out, and so far as answers to questions were concerned, the nurses viewed this as a privilege greatly appreciated. It appeared to him to throw doubt upon the expenditure in some places upon nurses' homes, and he himself often had doubt whether it was best for nurses themselves to be massed so much together, and whether it was not a freer life to have them dotted about the asylum as at present. The question of a favourable locality also would influence a decision upon this matter, and it was evident that Dr. Elkins enjoyed this in the immediate vicinity of Leavesden, where convenient accommodation close at hand made the experiment a success. He also thought that in an acute asylum with all the varieties of recent insanity it would be impracticable to go as far as Dr. Elkins had found it safe. At any rate, in whatever way the staff could be made contented and comfortable, it was our bounden duty to do so, as the case of the patients and their welfare depended upon the attention, care and vigilance of a trustworthy staff that was itself considered and made to feel at home in their service. Dr. Jones was greatly interested in the special care taken by Dr. Elkins to lower the death-rate from tuberculosis, and he was certain the sense of the meeting appreciated the very determined and successful efforts made for the better nursing of his patients and the comfort of his staff.

Dr. CAMPBELL said, as Medical Superintendent of the sister asylum to Leavesden, he had listened to Dr. Elkins's paper with great interest, and while also most anxious to promote the comfort of the nurses and attendants, there were some of his suggestions with which he could not agree. He fully approved of the male attendants being given as far as possible facilities for living out, and so getting married and settled, but for many reasons he did not think it was desirable for members of the female staff to live away from the asylum. Several of his older nurses to whom he had spoken on the subject would not welcome such a change. The locality was very different to Leavesden, there being a large barracks in the immediate neighbourhood. He had no hesitation in saying, were he the father of a young girl, he would not favour her joining an institution where so much latitude was given. He quite agreed with all Dr. Elkins had said regarding the class of patients now in the asylums, while in former years they got a few recoveries that was rarely the case now. A very large proportion were of the chronic lunatic type and as a great many of those transferred from the County Asylums were utterly hopeless, and of faulty, spiteful and destructive habits, the work and responsibility of the staff had been greatly increased. He would like to add how pleased he was that Dr. Elkins had afforded the members of the Association an opportunity of visiting one of the large chronic asylums under the Metropolitan Asylums Board.

Drs. GREENLEES, MOTT, BOYCOTT, BOND, and STEEN also took part in the discussion.

Dr. ELKINS, in reply, said that he offered his best thanks for the kindly criticism. His views as to the possibility of theft and of misbehaviour of some members of the female staff living out had been already fully dealt with in the paper read at the annual meeting and in the paper read to-day, he would point out that opportunities of theft and misbehaviour occurred every evening with in-sleeping staff. In all asylums, too, there were out-sleeping artisans who went home to meals. Dr. Boycott asked what arrangements were made as to parcels leaving the asylum. The gate porter had orders to prevent any parcel being taken out of the asylum without the written permission of one of the principal officers. If any member of the staff was suspected of concealing about his or her person anything with the intention of taking it outside the gate, he or she could be searched, the matron searching female suspects. At meal times half the staff left the wards to go either to the messrooms or to their homes. Bicycles had met the difficulty as to time allowed at meal times, and the time allowed had been found in practice sufficient. He was glad to hear that Dr. Bond's staff did not come on duty till seven a.m. Dr. Robert Jones's objection that nurses would be likely to get wet shoes and stockings had not been found a practical difficulty. The nurses living out had

provided themselves with quiet-looking useful hats and cloaks, an improvement on the florid apparel which used years ago to be, unfortunately, common. He did not agree with Dr. Greenlees that married attendants were less reliable than single ones. The tubercular deaths as set forth in the table included all cases where active tuberculosis was found by post-mortem, even if the tuberculosis was only a secondary cause of death.

Dr. Shuttleworth then took the chair in place of Dr. Jones, who was compelled to leave owing to an important engagement elsewhere.

Dr. J. F. DIXON read a paper entitled "The use of Sedatives in Insanity."

In the ten minutes allowed me for the opening of this discussion I propose to allude briefly to a few of the sedative influences, both direct and indirect, which may be used in the treatment of the insane.

I would use the word sedative in its widest possible sense, and I would submit to you that all forms of insanity and allied neuroses, are states, either of abnormal excitement, or of abnormal excitability, general or local, of groups of nerve cells or nerve centres, so that the general treatment of insanity practically resolves itself into sedative treatment. It may be said that the excitement is caused by toxins, and that the excitability is the result of exhaustion. I do not propose for a moment that this glib generalisation by any means disposes of the immediate causation of insanity; but as regards *drug* treatment, it gives, so far as it goes, some useful indications. For example, in cases of toxæmic excitement, with its associated high-blood pressure, calomel in minute repeated doses has been found useful; whereas in states of exhaustion, with feeble, too easily irritated nerve-cells, and cardio-vascular atony, strychnine is the drug par excellence. Time will not permit of my going into the virtues of the bromides, chloral, sulfonal, trional, veronal, bromural (urea-bromine), paraldehyde, dionin, heroin, hyoscin, amylene hydrate and morphine, besides many others which are more or less familiar to you all. They mostly constitute useful forms of chemical restraint in cases of emergency.

The question arises whether it is possible to have an unsound mind in a sound body. Whatever the answer to this question may be, there is no doubt, whatever, that body reacts on mind, and mind on body to a very remarkable degree.

The physical basis of insanity is just as elusive, as the mental phenomena are confusing; but we know that certain mental conditions arise frequently out of certain constant circumstances—that there is a causative environment, psychical and physiological. Our first endeavour then is to provide a curative environment. (Unfortunately we cannot influence predisposition.) Little fault can be found nowadays, with certain aspects of this environment. A healthy site is selected, a costly building erected, perfect drainage laid, and abundance of excellent water provided. So far so good. But why are these places turned into isolation hospitals—pushed away into outlandish corners of the country as though insanity were an infectious disease? Why is so little regard paid to beauty of landscape and to architecture, than which few things have so soothing an effect on the mind? Let me quote Ruskin, "The science of architecture," he says, "followed out to its full extent, is one of the noblest of those which have reference only to the creations of human minds. It is not merely a science of rule and compass or of fair proportion. It is, or ought to be, a science of *feeling* more than of rule—a ministry to the mind more than to the eye. If we consider how much less the beauty and majesty of a building depend upon its pleasing certain prejudices of the eye, than upon its rousing certain trains of meditation in the mind, it will show in a moment how many intricate questions of feeling are involved in the raising of an edifice; it will convince us of the proposition which might at first have appeared startling—that no man can be an architect who is not a metaphysician." Passing over, for want of time, the influence of trees, flowers, birds and beasts of the field, let us look to our interior decorations and see if regard is paid to the fact that *colours* are not simple sensations but have an affective tone peculiar to themselves. As regards the selection of individuals for association with and care of the insane.—Is there sufficient effort made to obtain those possessing that rare and invaluable quality of sympathetic intuition? Which of us is unfamiliar with the fact that there are people, well-meaning people, whose mere proximity is a source of irritation, while there are others who somehow exert a soothing effect. I feel strongly that more effort

is required to promote the feeling of self-respect in the insane, and to this end the clothing, personal appearance, and individuality of the patient should be studied; while such terms as "pauper lunatic" and "asylum" might with advantage be relinquished, owing to their unpleasant association with the past. The science of dietetics has not been standing still, and it might be well if the tables of our institutions for the treatment of mental disease were revised in accordance with the progress made. A "stimulating" diet infers the existence of a non-stimulating or sedative diet.

Gymnastics and music have always been closely associated. "The best gymnastic," wrote Plato, "is sister to pure and simple music. By the one, health is given to the body; by the other, self-control to the mind."

"These two exercises and pastimes please me best," says Martin Luther, "first, music, and second, wrestling, running, and jumping; of which the first banishes heart-ache and melancholy thoughts, and the other gives to the body free agile and strong members, and wonderfully preserves the health."

Would a more extensive and systematic use of music and gymnastics do anything to abolish or abate the disheartening and pathetic picture of the shuffling automatons of the airing courts? In the Hospitals of Bicêtre and La Salpêtrière there are or were gymnasiums where young epileptics and idiots performed easy regulated exercises under direction, with good results.

The idea of maintaining a certain amount of discipline among the insane may at first sight appear somewhat anomalous, but I believe it holds an important place in treatment, and tends to sedation.

While complete rest in bed in the open-air is one of the greatest triumphs in the modern treatment of certain insane conditions, there are others to which regular and systematic employment is the greatest godsend.

It is said that worry is the most popular form of suicide—that it impairs appetite, banishes sleep, disturbs respiration, spoils digestion, irritates disposition, warps character, stimulates disease, saps bodily health, and weakens mind. Worry is mental poison, while work is mental food. Let us, then, provide work of interest and utility.

I suppose of all the organic functions of the body there is none which is more often or more obviously affected in association with insanity than the eliminating function of the skin. Here we have ample scope for hydro-therapeutic treatment. Beyond the associated weekly wash, and perhaps the prolonged hot bath, I am not aware that water plays an important part in treatment at many asylums, and the same may be said, I think, for massage—a most useful and important method of treatment. Then there is the science of electro-therapeutics, which has made such wonderful strides of late. Have we not in it a weapon to our hand. Prof. Leduc, in his recent work on *Electric Sleep*, has shown that it is possible to produce sensory and cerebral inhibition.

He says we shall soon have at our disposal an intermittent current of proper frequency and duration by which we can switch off any or all of the nerve centres at will. Inhibition is produced by current oscillations attuned to the physiological note. The frequency for the brain of a rabbit is found to be 100 per second, and the duration of the current $\frac{1}{100}$ th of a second. The animal sinks quietly into a condition of deep narcosis, similar to that of chloroform, and awakens instantly on cessation of the current, with no ill after-effects.

As the stress of civilisation increases the prevailing mental disorder may well depend upon a too widely extended consciousness of our environment, and such will have its antidote in nerve sleep. Also, arguing from the analogy of plants, it may be found advisable to precede a period of unusual activity by a suspension of consciousness.

X-rays have been used with good effect in epilepsy by irradiating that part of the brain which corresponds to the commencement of the aura (Horace Manders).

My time draws to a close, and I cannot do better than introduce the last and most debatable method of sedative treatment by a quotation from Wundt. He says,—“It cannot be disputed that a cautious and intelligent use of suggestion may be of avail for the temporary, perhaps permanent, removal of diseases due to functional derangements of the nervous system, or to harmful practices such as alcoholism or morphinism.” Hypnotism is a two-edged instrument, not a remedy

of universal serviceability, but a poison whose effect may be beneficial under certain circumstances."

I think the general notion about hypnotism is that it weakens the will-power of the subject, but it would appear that the real object of hypnotic treatment is, on the other hand, the development of the will-power of the patient, and of his control over his own organism. Many mental illnesses represent the culminating point in a life which has been characterised by a lack of discipline and self control. I will close with an allusion to the psycho-therapeutic movement in America referred to by Dr. McDonald in the April *Journal of Mental Science*. You have probably all read the article, and I will not weary you further, beyond saying that there is no doubt much can be done and has been done by purely psychic methods in cases which would otherwise undoubtedly have become insane. Unfortunately we of the asylum service are placed under tremendous disadvantages as regards opportunity for the study of incipient insanity, and the community at large is at a corresponding loss, by the short-sighted restriction of our field of work.

This paper was discussed by Drs. SHUTTLEWORTH, MOTT, BOND, ELKINS, FENNELL, and STEEN, and Dr. DIXON replied.

The meeting directed a vote of thanks to be forwarded to W. T. Hatch, Esq., for his courtesy in exhibiting plans, and with votes of thanks to Drs. Jones and Shuttleworth for acting as chairmen, the meeting terminated.

After the meeting Mrs. Elkins entertained the members to tea in the medical superintendent's house.

In the evening a good number of the members dined at the Café Monico.

SOUTH-WESTERN DIVISION.

A MEETING of the South-Western Division of the Medico-Psychological Association was held at 2, Bladud Buildings, Bath, by kind invitation of Dr. MacBryan, at 3 p.m., on Friday, October 30th, 1908.

The following members were present: The President (Dr. Mercier), Drs. Aldridge, Baskin, Bullen, Goodall, Lavers, MacBryan, Macdonald, Morton, Nelis, Paul, Pope, Prentice, Rorie, Rutherford, Soutar, and the Hon. Divisional Secretary (Dr. Aveline).

The chair was taken by the President.

The minutes of the Spring Meeting were read and signed.

The following candidates were elected members of the Association: George Hooper Rains, L.S.A.Lond., Assistant Medical Officer, Brislington House, near Bristol. Proposed by Drs. Morton, Aveline, and Rutherford. William S. Graham, M.B., B.Ch., B.A.O., R.U.I., Assistant Medical Officer, Somerset and Bath Asylum, Cotford, near Taunton. Proposed by Drs. Aveline, Rutherford, and Morton.

COMMUNICATIONS.

CARDIFF HOSPITAL FOR MENTAL DISORDERS.

Dr. GOODALL made an interesting statement on "Consideration of Possible Medical Interest Connected with the Opening of the City of Cardiff Hospital for Mental Disorders." He stated that it was not his intention to deal with the architectural features or administrative arrangements of the City of Cardiff Mental Hospital. As the title of his address indicated, he proposed to deal only with certain medical aspects of the Institution. He, however, showed a block plan of the institution, which was handed round, so that the members were able to observe the general arrangement of the institution and the manner in which it was built, in horse-shoe shape, with the wards arranged round the convex aspect of the horse-shoe, all communicating, and nearly all facing south. The administrative block, power-station, laboratories, etc., occupied the centre, and there were detached buildings for the staff outside. At the outset Dr. Goodall observed that the plans were not submitted to a public asylum medical superintendent prior to erection, and when he asked the Chairman of the Committee why that was so he said they

were advised that if they employed expert advice the superintendent they appointed would differ from the expert, it being well known that all lunacy doctors were faddists and differed on almost every point. (Laughter.) He ventured to say that on essential things they would not be found to differ, and he pointed out also that the plan of asking for expert advice had been adopted at other institutions with very good results. If he had been consulted he could have made suggestions which he believed were not in the nature of fads. Dr. Goodall pointed out various omissions, one being the absence of a separate block for private patients, and another the absence of a separate ward for imbeciles and defective children. At the time the buildings were erected the Committee were approached by the medical men of Cardiff and urged to put up separate blocks for private patients, but unfortunately they did not adopt that course, though he hoped that later on they would do so. Similarly, they were asked to put up blocks for imbeciles, but economy was the chief reason for not doing so. Now they had the imbeciles mixed up with the other patients, and the Committee would like to see their withdrawal, but this was not feasible. Taking things as found, the object had been to give the Institution as much a hospital character as possible. The title was adopted on his suggestion. He went on the basis that for the asylums of New York the term "hospital" had been adopted, and he thought in some of our colonies, such as New Zealand, it had been adopted too; also at Croydon, London, and Chichester, the latter in a modified way. These illustrations demonstrated to him the advantages that were to be derived from the title of "hospital for mental diseases." He urged the title, and the Committee were unanimous with the exception of the Chairman, and he was over-ruled. The speaker thought there was a good deal in a name in this connection, which they as psychologists should make use of—it was better for the patients, it was better for their friends, and it was better for the nursing staff. The question was raised at an interview they had with the Local Government Board in connection with the borrowing of money, and Mr. John Burns asked him personally why they used the term "mental hospital." "Do you expect to pay more for it?" he asked. He replied that the question of expense had not to do with him (Dr. Goodall). Dr. Goodall, continuing, said he found the Royal Commission on the Feeble-minded recommending that the terms "asylum" and "lunatic" be dropped and "hospital" and "mental defective" substituted, and he thought himself that was in the right direction, and he was very glad to see the recommendation. Dr. Goodall went on to refer to the various advantages from a medical point of view which accrued to an institution in the neighbourhood of a city; Cardiff was only distant a journey of fifteen minutes, with frequent communication by rail and motor 'bus, having an infirmary with specialists attached, having a medical society and library, and equipped with a pathological and bacteriological laboratory with an experimental licence, and later on, when a medical school was fully equipped at Cardiff, the advantages in this direction would be greater. The rules of the Hospital provided for the calling in of help from the specialists available, and when they wanted such help in various ways they could get it very easily—a thing that was very much appreciated by anyone who had been far from assistance of that kind in the country. In the original plans an operating room costing some £600 had been provided, which had been cut out on grounds of expense. He, however, urged the desirability of having a small, properly-equipped room for operations, and having a room at disposal which was not required they adopted his suggestion at a cost of £500. The arrangements of this and an adjoining anæsthetising room were described. A loan to cover the cost of the room was disallowed, the Commissioners at the same time refusing their consent to a fire-station (to serve as a gathering point for the fire brigade), but as the buildings were nearly completed at that time they went on with them, and the cost would have to be borne out of the rates. The Commissioners said the operations were few, and one observed that operations were often done in private bedrooms in London. He (Dr. Goodall) pointed out that they had allowed one designed, he believed, by their own architect at the Long-Grove Asylum, and he produced to them a telegram from Dr. Bond saying that he had an operating room, so that such had recently been allowed. Dr. Goodall pointed out the evils which resulted from the want of a small and properly-equipped room for operations, and related that he had seen cases that needed operations left alone because the doctors from the neighbouring towns did not care to operate

without proper means. Anyway, they had got at Cardiff a well equipped room with an electric fan and about £360 worth of operating and clinical instruments, and within a fortnight of the operating room being opened their Night Sister sustained a fracture of the base of the skull and she was operated upon in that very room. He would have preferred that the nursing in the male infirmary should have been carried out by the female staff under the matron had the arrangement of the wards permitted it, but it could not be worked. He agreed that in any case some subordinate male help would have been necessary to assist with the rough and difficult work, as where it came to moving and struggling with resisting patients. In appointing a matron a successful endeavour had been made to obtain a trained hospital nurse and asylum nurse in one and the same individual. Provision for a housekeeper had been altered to accommodate a deputy to the matron. The housekeeper was not missed, the claim of the nursing was more important. The night staff was supervised by a Night Sister and Night Inspector respectively. The day nurses were classified as Ward Sisters, Staff Nurses, and Probationers. The nurses, and as many as possible of the attendants, signed a three years' engagement on the understanding that they were properly trained and prepared for the nursing examinations. Outdoor nursing uniforms were worn by the female nursing staff on the service of the institution, and also in their own time, unless forfeited for misconduct. The plan was adopted of changing probationers from ward to ward on each side every three months, so as to give them all the experience possible, and also of making them take night duty for the same period. One advantage of opening a new institution was that one could start with a good outfit of scientific apparatus. Care was taken that in the schedule of equipment sufficient allowance was put down for clinical, pathological, and operating instruments and apparatus. The whole of the fittings of the pathological laboratory were put up by local carpenters under direction. In addition to the usual apparatus in this laboratory there were sterilisers and an incubator, and the essentials for elementary bacteriological work. A library would be formed in due course in connection with it. The hospital possessed a good photographic studio with a room which had been prepared for X-ray work, for which purpose a very efficient outfit had been supplied by Mr. Leslie Miller, Hatton Garden. Dr. Goodall added that he got Dr. Lewis Jones, of St. Bartholomew's Hospital, to advise him as to this and all the electrical plant. The X-rays had proved most useful in some cases of fracture already. The cost (electrical plant) was about £150. In this room also laryngoscopic and ophthalmoscopic work could be carried out, for which suitable lamps had been provided. A room had been set apart for electric bath treatment, following up a line of work upon which the speaker had been engaged at the Joint Counties Asylum, Carmarthen. The method of production of current and the apparatus used was briefly described. A useful trolley (K. Schall's) for faradic and galvanic currents to be worked off the main plug had also been provided, and this could be taken to the wards when necessary. Dr. Goodall referred to the objects of the bath treatment, and incidentally related the suggestive influence of the bath upon a patient with hysterical paraplegia who had not moved for five years when she was brought to the new institution, but who had been discharged cured. A Swedish drill class was held on both sides, and extra pay given to the ward sister and the charge attendant for conducting the same. The exercises were collected from Ling's suggestions. The patients and instructors were dressed in suitable uniforms. In accordance with the experience of others he had found prolonged warm baths useful in some cases, and he considered it unfortunate that the use of a lid for the bath had practically been abolished by the declaration of this practice as restraint. Undoubtedly the use of the bath had been thereby restricted. It was still seen on the Continent, and was not considered to be restraint there. He said unhesitatingly that it was a misfortune, and perfectly unnecessary. He thought that in this country the importance of the liberty of the subject was exaggerated. At Cardiff it was only possible to give such warm baths in the ward bath-rooms, no open baths being available in the general bath-room, where the spray system of bathing had been adopted. The ward baths were, however, supplemented in any given ward by means of baths on wheels moved from one ward to another. The spray system of general bathing was referred to, and the remark made that a shower bath might with advantage be placed at the head of one of the ordinary fixed baths off each ward, as was done in

private houses. The great advantage which resulted from the provision of large verandahs in connection with the dormitories off the sick wards on both sides was pointed out. Beds could be wheeled direct from the dormitories under these verandahs. The case-books were kept on the loose-leaf principle, with which some of his hearers were familiar, the case being taken in accordance with printed headings for mental and physical states. Specimens of these leaves were handed round for inspection, and Dr. Goodall explained that histories were kept in separate binders and were taken on forms, of which specimens were also shown. When the case was finished it was taken from the live case-book and put into the chronic case-book, and when death or discharge took place it was put into the death or discharge book, and so only one, or possibly two, books were in active use on each side. The Commissioners had looked at the books and expressed themselves as pleased, which was gratifying. When all was said and done he felt that the institution was a good compromise, because, so far as his own personal views went, he regarded the arrangement of, and the work being carried out at, the Royal Psychiatric Clinic at Munich as far superior to anything this country could show, but unfortunately we could not yet conduct scientific work in psychiatry on these admirable lines, even in London, let alone in provincial towns. He believed that in the interim much could be done, more especially in asylums in close touch with large towns, by the employment of specially-selected young men in the capacity of *internes* for the following-up of lines of research work, who, however, must be provided with suitable clinical and laboratory facilities and trained laboratory assistants, and receive proper guidance from the director of the mental hospital. As far as he was concerned, however, this plan was *faute de mieux*, the psychiatric clinic with associated asylum in the proper sense (for chronic, aged, and decrepit patients) being the object for which, he believed, they should work.

The PRESIDENT described Dr. Goodall's paper as a "breeding ground of ideas," and observed that few people had the opportunity of opening a new asylum equipped in the most modern manner, but he supposed that they had all their aspirations as to what they would do if such an opportunity came to them.

Dr. MACDONALD said he was sure that he voiced the feeling of the meeting when he said they had listened to Dr. Goodall's paper with the greatest interest. They knew that they were going to listen to original ideas because those of them who had known Dr. Goodall, as he had, for long years knew that he was not usually satisfied with ordinary things. With regard to the substitution of the term "hospital for mental disorders" for "asylum," he personally would rather see the law attacked and altered, and then it would be a simple and easy matter to change the name. Dr. Goodall had expressed his regret that he himself, or someone else who was an expert, had not been consulted with regard to the plans, especially with regard to the making of it possible for the nursing of the male patients with female nurses, because the arrangement of the building did not make it possible for that to be done. He felt sure that that was an arrangement that many connected with the nursing of the insane to-day would like to adopt. Personally he would adopt it to-morrow if it were possible to do so in the building with which he was associated. But he parted company with Dr. Goodall when it came to the question of his staff being compelled to wear uniform when off duty. When on duty let uniform be worn by all means, but when members of the staff, whether male or female, were enjoying their own time, he did not agree that they should have to brand themselves as belonging to any institution. However, when he came to the pith of the whole thing and saw the delightful way in which Dr. Goodall had got his institution equipped with every scientific apparatus, he could only say that he envied him, and he could only hope that Dr. Goodall would live many long years to see the fruit of his labours in the place which he had taken so much delight in equipping, and which he would endeavour to keep in the front rank of such institutions in this country.

Dr. POPE said he would first of all like to express his agreement with Dr. Macdonald absolutely as to the admiration they all felt for Dr. Goodall's energy in equipping the Cardiff institution as he had done. With regard to his remarks about electric baths and Swedish drill he envied him heartily, and especially the Swedish drill. From the effects he had seen of an experiment with it, he believed it to be one of the greatest physical improvers any institution of the kind could have. He thought, for one thing, it would banish tubercle.

With regard to Dr. Goodall's tenderness about the application of restraint, he would remind him that the stringent rules were instituted because of flagrant wrong-doing and as a safeguard to patients. The jaunty way in which restraint was sometimes applied made it one of the greatest abuses. If they wanted to seclude or to restrain let them do so—only it must be recorded. If Dr. Goodall would put his restraint lid on, nobody would abuse him for doing so, and he would not object to recording it if he was not ashamed of it. He did not approve of the change of name to "hospital," though he could not understand the meaning of Mr. John Burns as to the cost, because the maintenance rate was a certain amount and the name would not alter it, call it what they might. But he pointed out the grave frauds that were sometimes committed against marriageable young men by young women who had been discharged from asylums, and he said that it would add to this danger if asylums were known as hospitals, because to admit having been in a hospital need not imply anything more than a broken arm, and would not indicate mental trouble. It was a matter which required great care. He was interested in the observations about the loose-leaf system, being one of the first to carry the point with the Commissioners and get them to approve of it. At his institution they had brought the books down to three on each side, and they used boxes for cases that were recent. With regard to the wearing of uniforms when off duty, he would rather the use of the uniform was confined to the boundaries of the asylum, otherwise he did not know what use was being made of them. He had found histories to be a total failure, and if the answers that Dr. Goodall got were within miles of the truth it would be very good. He himself would not be very much inclined to tell anyone whether his father or mother had syphilis. It was all very well in theory, but they found they could not get reliable answers and they had abolished the system. People who drank thirteen quarts a day would be represented as just taking a "sup" now and then, and such answers as that were of no use and never would be. With regard to clinical assistants Dr. Pope spoke doubtfully, though he hoped Dr. Goodall would find them as successful as they were on the continent. Although he had appeared somewhat in the rôle of a critic he admired the work that Dr. Goodall was doing, and looked upon him as a giant in scientific work as compared with himself.

Dr. AVELINE added his thanks to Dr. Goodall for his very interesting paper, with its illuminating ideas on treatment which he had introduced to them. He thought one of the principal things upon which they could congratulate him was on being near a centre of medical education like Cardiff. It was unfortunately the fashion to hide asylums far away from any centre of civilisation, and being thus situated himself he (the speaker) knew how the opportunity to compare views with those engaged in other branches of medicine was a thing to be ardently desired. He was going to ask Dr. Goodall whether any specialists were attached to his hospital, more especially whether there were any dental specialists. That was a point to which it seemed to him attention could be given very usefully. He had adopted the loose leaf system, and was glad to support Drs. Goodall and Pope in what they had said about its usefulness.

The PRESIDENT said, as they would have expected, Dr. Goodall's paper was teeming with ideas, some of which he heartily agreed with and with some of which he heartily disagreed. He thought that the attempt to change the name of the malady from which the insane person was suffering, and of the institution in which he was treated, was destined to be unsuccessful, and it seemed to him, if he might venture upon so strong a term, to be rather childish. They had seen the same thing done again and again with madness. "Madman" was the name that used to indicate the man suffering from madness, and in the old days the place in which he was kept was called a "mad-house." That name gathered round it a number of associations of an objectionable kind and so it was softened down, and instead of the sufferer being called a "madman" he was called a "lunatic." That, at the time it was introduced, seemed a much less objectionable term, for the reason that it was quite fresh and did not connote those evil associations that clustered round the title of "madman." But it very soon became just as bad as the former term, and so for "lunacy" was substituted the term "insanity," and for a certain time that sufficed to satisfy people who were scared at the titles of "lunacy" and "madness." Now they found that "insanity" had the same evil associations adhering to it, and they were endeavouring to find a new term, and the Royal Commission were

seeking to substitute "mental deficiency." The same process would go on. They could not alter the thing itself; it was the thing that was so terrifying, it was the fact of a person being mad, or being a lunatic, or being insane or mentally deficient. It was not the name, and whatever the name they attached that name would gather round it the same unfortunate associations and the same dreaded significance as before. The same thing had gone on in other directions. Their forefathers used to attend the calls of nature in a privy—that is, a privy place or private place. What name could be less objectionable? But it soon gathered unpleasant associations, and when the water-borne system was brought in it was called a "water closet," and that for a time was quite a genteel term to which nobody felt any objection to referring in polite society. But "water-closet" became as objectionable as the old "privy," and so it was made more elegant and softened into "w.c." But "w.c." soon had the same odorous associations, and now we called them "lavatories"—a most inappropriate name, for a lavatory was the place in which one went to wash, and the term was a misnomer as applied to the ordinary water-closet. The notion of rendering a thing less objectionable by applying a less objectionable title was a futile endeavour, and was destined to end in failure. Just in the same way now it was being pressed on the Departmental Committee, on which he had the honour of serving, that for the term "drunkard," "inebriate" should be substituted. It was a less objectionable term only because it was comparatively new, but as soon as it became as intimately associated with drunkenness as "drunkard" it would be looked upon as much askance, and he hoped in time the inebriate would be looked upon with as much disgust as a drunkard was now. Perhaps, however, that was hunting the hare to death. He was surprised to hear that the Commissioners offered opposition to the introduction of the loose-leaf system. As to baths, he was not strongly in favour of keeping patients in baths by means of the lid, but he was in favour of giving the medical man every latitude possible in the treatment of his cases, and he did not think it was consistent with the dignity of the medical profession that hard and fast regulations should be made by which it was impossible for doctors to treat their patients as they desired to treat them. He was much in favour with the suggestion of the psychiatric clinic; it was what they wanted more than anything else to stimulate progress in their science. Dr. Goodall had an unexampled opportunity, because he was only a quarter of an hour's journey from a great town with laboratories and ample materials at his disposal, and with the influence that he could bring to bear he could, no doubt, have an out-patient department at his asylum, and gather in a larger amount of material than could those who were engaged in London hospitals. In the hospital he was attached to, it was a new experience to see cases of mental disorder which he had never seen in the course of his experience in asylums. Not only did they get cases earlier, but in new forms, which would throw a light in various directions on cases of insanity. The mental disorder which was not insanity was just what they did not see in asylums, and yet it was just what they wanted to see if they wanted to find out the beginning and the progress of the malady. It seemed to him that in that respect Dr. Goodall had an unexampled opportunity, of which, no doubt, he would avail himself. The only thing he hoped he would not do was to be led astray by the splendid opportunity and the equipment he had to deviate from the path of psychology and to go in for futile experiments on physiological psychology, which consumed an immense amount of time, which required expensive apparatus, and which led to no conclusions of value.

Dr. GOODALL, replying to the discussion, said it was a source of gratification to him that his remarks had aroused so much interest. As to the use of the name "mental hospital" which had been criticised, he recognised, of course, that there were varying opinions, but at any rate he felt that he was in good company, because he thought he was quite correct in his opinion that in New York and elsewhere they had altered the name of their institutions. Dr. Goodall said the fact that the Royal Commission had recommended the term in this country was also in support of his position. They did not, he supposed, conceive themselves to be legislating for the present only, but for the future. It was beneficial for the patients, for the patients' friends, and the staff. He had not so much experience to go upon as some, but believed that the change of title might lead to more expense, and the question asked him by Mr. John Burns was based upon the same assumption

—that by the adoption of the term "mental hospital" expenses would increase, because, for one thing, they would not get nurses to go for the same money to a mental hospital. They would get a better class of persons coming to a hospital for mental diseases, and he thought that was in Mr. Burns's mind when he asked the question. At the same time, he thought that it was their duty to demonstrate that madness was not so different from other diseases that it should be put apart. It was a mediæval idea that the mentally-afflicted must be isolated. The disease attacked the highest organ of the body, but it was still an organ of the body, and for that reason he said that the acute cases ought to be treated like other diseases—in hospitals. As a member of his council said to him, he had never been able to understand why these people were put away and treated differently to other sick folk. There was no essential difference—it was only a figment of lay imagination. As Dr. Macdonald said, they would have to use the term "asylum" for official purposes. He asked the Commissioners their view, and they replied that they saw no sufficient reason why the term "asylum" should not be adopted, and by that name the institution at Cardiff would be known in their books. But on no other paper than the official notepaper did they use the term "asylum"; otherwise they carefully avoided it. With regard to the kitchen, he was aware that some superintendents preferred the housekeeper, but he himself thought that the lady with the large bunch of keys and the prosperous appearance was an anachronism. If they could have one as well as a matron and a deputy to the matron, well and good, but in a middle-sized asylum they had to choose between a housekeeper and a deputy matron. The kitchen was under the direction of the matron, the storekeeper and himself. With regard to the three years' engagement, he got the idea from the Sunderland Borough Asylum, from which two nurses wanted to come to him as Ward Sisters after completing a three years' engagement there. No doubt at the end of the three years there was a tendency for the members of the staff to leave, and he thought they must put up with the discomfort. He knew that some medical superintendents had given up lectures in consequence, and that others would not give testimonials until nurses resigned, but he regarded that as a narrow-minded proceeding and a policy that would defeat itself in the end, and he hoped it would. On the subject of uniforms Dr. Goodall said he did not find their use abused, and he did not see why it should be more than that of the ordinary nurse's uniform. The staff were not compelled to wear them when they went home for the day or anything of that sort. With regard to recording restraint, he remembered a Commissioner saying, "I hope that doesn't deter you from using it," but he said it did deter the majority, because of the constant reporting of these things in the books and the giving out of restraint-notice to the nurses. All that was a nuisance, and whatever they might say people did not care to see in the Commissioners' report, "300 hours of restraint" or some such statement, and if it got into the papers (and these things did in his case) the public did not understand, and all that was a deterrent. He quite agreed, of course, that it was not right to fetter a doctor in his measures. As to the loose-leaf case-books, whatever the Commissioners might have thought formerly they seemed to have strongly approved of them latterly. They all knew the shortcomings of histories, but if they gave up taking histories they would lose a lot of valuable information. Not all people were unconscientious.

Dr. POPE: My people are ignorant, you know.

Dr. GOODALL: I hope you will get them educated in time, but you cannot open a book, English or foreign, which advises the giving-up of the taking of histories. The taking of histories is like the examination system—it has its evils, but one cannot do without it. One must sift the chaff from the wheat. He did not think there would be much difficulty in getting clinicals if young men knew what advantages they were going to get, if proper opportunities were given, and if there was somebody to guide them. There were no specialists attached regularly to the Cardiff hospital, but they could call in whom they pleased. Dr. Goodall gave reasons why it would not be well to have specialists attached to the staff, but said he engaged the most suitable man he could. They would certainly call in dentists. Referring to Dr. Macdonald's criticism of the name of the institution, Dr. Goodall asked if he called his private block "the Lunatic Asylum" instead of "Harrison," would he get as many patients? Sauce for the private goose was also sauce for the pauper gander, or should be.

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Dr. MACDONALD said that was not his point, which was that there was no use in calling it a hospital if the Commissioners would only call it an asylum in their forms.

Dr. GOODALL, with regard to the President's remarks, said he did not think that the change of name could be properly compared with a change in the name of a vice, because they could not alter the conception of a vice by altering its name, but he did not see why they should not alter the conception of a disease. He was glad to know that the President approved of what he said as to psychiatric clinics; it was undoubtedly the most important question of the day for them.

The PRESIDENT, taking advantage of his right to the last word, said he would call Dr. Goodall's attention, without resting any argument upon it, to the fact that the name "asylum" was given to these institutions originally in substitution for the name "mad-house," and the term "asylum" was chosen as being the one most completely free from all objectionable association. An asylum was really the place to which one fled for safety, but now an asylum had got to be definitely associated with lunacy, and they only thought of it in that way, but when it was first adopted it had no such significance.

Dr. EDEN PAUL contributed a paper on "Dr. Bloch's Views on Psychopathia Sexualis," as set forth in the volume which Dr. Paul has translated into English, and which is entitled *The Sexual Life of our Time in its Relations to Modern Civilisation*.

Drs. Goodall, Soutar, and Mercier took part in the discussion which ensued, and Dr. Paul replied.

The proceedings closed by votes of thanks being accorded to Dr. Mercier for presiding, and to Dr. MacBryan for his hospitality.

The members subsequently dined together at Fortt's Restaurant, Bath.

NORTHERN AND MIDLAND DIVISION.

The AUTUMN MEETING of the Northern and Midland Division was held, by the kind invitation of Dr. Archdale, at the East Riding Asylum, Beverley, on Thursday, October 22nd, 1908. Dr. Archdale presided.

The following 14 members were present:—Drs. Archdale, Anderson, Cross, Gane, Geddes, Hitchcock, Hopkins, McDowall, C., McDowall, T., May, Merson, Pierce, Simpson, Adair, and 3 visitors—Drs. Bailey, Ranson, and Stephenson.

The minutes of the last meeting were read and confirmed.

It was proposed by Dr. Archdale, and seconded by Dr. Geddes, that Drs. Hitchcock, T. McDowall, and Bedford Pierce should form the Divisional Committee for the next twelve months. This was carried unanimously.

The place of meeting for the Spring Meeting was left to the Secretary to arrange.

Dr. French was unfortunately prevented from being present to give his paper as announced on the Agenda.

Dr. ARCHDALE read a paper entitled "Remarks on Hospital (*i.e.* Asylum) Treatment of the Acute Insane." He first reminded the meeting of certain ætiological factors in the causation of acute insanity. From these he deduced the following principles or aims of treatment—to afford rest as complete as possible, to eradicate parasites and assist excretion, and, finally, during the stage of convalescence, to exercise all faculties in a gradual manner. He then went on to show the details of methods by which such principles might be carried out in practice. This he did by remarking on the following subjects:—Confinement to bed in the fresh air, isolation and observation, psychic treatment or suggestion therapeutics, sepsis in the mouth and other parts, disturbed metabolism, antiseptics and sanitation, regulation of the bowels, water drinking and saline injections, milk and simple diet, observations of urine and weight, hypnotics and sedatives, and exercise.

Dr. T. W. McDOWALL remarked that the paper traversed the whole field of treatment, and offered many interesting points for discussion. He was gratified to see that Asylum Medical Officers were taking so much interest in the treatment of the acute insanities.

Drs. HOPKINS, HITCHCOCK, GEDDES, and PIERCE joined in the discussion. Dr. Hitchcock emphasised the fact that the elimination of toxins and the use of rest were most beneficial.

Dr. ARCHDALE then replied to various questions which the paper had suggested. Dr. COLIN McDOWALL read a paper on "Blood Changes as a means of Prognosis in the Acute Insanities." He said that leucocytosis was a phenomenon which most authorities regarded as the reaction of the organism against an invading toxin. By an observance of the character of the leucocytosis and the presence or absence of an eosinophilia, together with the advent of dementia, a prognosis could be arrived at. Excitement with confusion gave more uniform results than did depression with excitement. The observations made regarding the latter disease did not coincide entirely with those of other workers upon this subject. Chloral and morphia as depressants were not advocated in cases in which the leucocyte count was low. A regular moderate leucocytosis was regarded as the most hopeful sign found in the blood, especially if accompanied by an eosinophilia. Whilst there was leucocytosis there was hope.

A number of coloured drawings were shown, illustrating blood in the diseases under discussion.

Dr. MERSON and Dr. ARCHDALE made some remarks on the paper, and Dr. McDOWALL replied.

Dr. SIMPSON read a paper entitled "The Prognosis in the more Acute Forms of Mental Disorder." He pointed out the difficulties there were in treating of prognosis—arising from classification, from the peculiar individual nature of insanity, and from the meaning attached to the term "recovery." He showed how the various factors of sex, age, heredity, the form of mental disorder, the duration of the disorder, and bodily disease affected the prognosis; that the prognosis was more favourable in males than females in the ratio of 1.07 to 1; that it was more favourable in melancholia than in mania, and very unfavourable in delusional and epileptic insanity. He commented upon the public ideas and prejudices against asylums, and emphasised the necessity for early treatment.

Dr. ARCHDALE exhibited and explained the use of Oliver's hæmomanometer for estimating blood pressure.

A very interesting and instructive meeting was then brought to a close by a hearty vote of thanks to Dr. Archdale for his kind hospitality.

SCOTTISH DIVISION.

The HALF-YEARLY MEETING of the Scottish Division of the Medico-Psychological Association was held in the Hall of the Royal College of Physicians, Edinburgh, on Friday, 20th November, 1908.

There was a large attendance of members. Dr. Clouston occupied the Chair.

The CHAIRMAN referred in fitting terms to the death, since last meeting, of Dr. Cameron, Lochgilphead, and the loss thereby to the Association. It was moved that it be recorded in the minutes "That the members of the Scottish Division of the Medico-Psychological Association desire to express their deep regret at the loss of Dr. Cameron and their sympathy with the members of his family in their bereavement," and the Secretary was instructed to transmit an excerpt of the minutes to the relatives of Dr. Cameron.

The Superannuation Allowances Committee reported that Sir John Jardine, M.P. for Roxburgh, had stated his intention of bringing in next session the Bill drafted by the division. Formal notice of the Bill has to be published in the *Edinburgh Gazette* on 20th and 24th instant. It was suggested that all the Scottish members and others who can assist in the promotion of the measure should be approached in due time, and every endeavour made to ensure the passing of the Bill.

The SECRETARY, Dr. Hamilton Marr, submitted a list of acknowledgments received in connection with the illuminated excerpt from the minutes of meeting of 19th March last regarding the Jubilee of the Present Legislative System of Lunacy Administration in Scotland, a copy of which had been sent to the Chairman and the Superintendent of each of the Scottish asylums. It was unanimously resolved that letters from the General Board of Lunacy, Dr. John Macpherson, H.M. Commissioner in Lunacy, and the Chairmen of the several Scottish District Asylums should be engrossed in the minutes.

Dr. Macpherson's letter was read as follows :

"I am in receipt of the illuminated minute of the Scottish Division of the Medico-Psychological Association which you have been so kind as to send me. It is a document of great interest, and one which I shall always treasure. Please accept my thanks. It seems to me to testify especially to the community of purpose which has inspired all those who have been engaged, during half a century, in the care of the insane in Scotland. That harmony of purpose must, I have often thought, be attributed to the wisdom of the men to whom the practical application of the Act of 1857 was first entrusted. It would have been easy then to cast Scottish lunacy administration into a different mould, but with liberal foresight they decided to direct it into its present form. It thus comes about that advances in our specialty in Scotland, though no doubt fostered by the General Board, have been initiated and promoted, chiefly, by individual superintendents of asylums. It is for these reasons, I believe, and also because the members of the Scottish Board have endeavoured to maintain, as the source of their inspiration, the high standard of sympathy for the insane which they received from their predecessors that your Division has paid to the existing Board this gratifying tribute.

"So impersonally do I feel in this matter that had I been present at the meeting of the Association at which the proposal to draw up this address was made I should have most cordially supported it."

Mr. T. W. L. Spence wrote on behalf of the General Board of Lunacy—

"I have now laid before the Board your letter of 19th ultimo with accompanying minute of the Scottish Division of the Medico-Psychological Association, and with reference thereto, I was instructed by the Board to express to the Division the pleasure with which they have received the minute, and to thank them for the gratifying terms in which the appreciation of their policy during the past fifty years has been conveyed."

James Adam, Esq., Chairman, Royal Asylum, Edinburgh, replied in these terms—

"Your letter of 19th inst. addressed to Professor Rankine, the late Chairman of this Board, has been handed to me together with the copy of the minute of the Scottish Division of the Medico-Psychological Association of date 19th March, 1908, the latter of which I to-day had the honour of submitting to my Board. I have been directed to ask you to convey to the members of your Association the gratification felt by this Board at the manner in which their services have been appreciated, and to assure your Association that as in the past so in the future their every effort will be devoted to furthering the cure and alleviation of those suffering from mental disease and to advancing the study of mental pathology."

Drs. Hugh F. Watson, Senior Assistant Medical Officer, Ayr District Asylum; W. Tuach Mackenzie, Medical Superintendent, Dundee Royal Asylum; W. H. McWalter, Medical Officer, H.M. Convict Prison, Peterhead; and George Dunlop Robertson, Medical Officer, Smithston Asylum, Greenock, were unanimously admitted members of the Association.

Drs. FORD ROBERTSON and DODS BROWN read a paper on "The Bacteriology of the Cerebro-spinal Fluid in General Paralysis of the Insane," and gave a microscopical demonstration (see page 36).

Votes of thanks to Drs. Ford Robertson and Dods Brown for their interesting paper and to the Chairman for presiding concluded the business of the meeting.

IRISH DIVISION.

THE AUTUMN MEETING of the Division was held at the Royal College of Physicians, Dublin, by the kind permission of the President and Fellows of the College, on Saturday, November 7th, 1908, at 3 p.m. Dr. Drapes occupied the chair, and there were also present Drs. J. Mills, James J. Fitzgerald, F. E. Rainsford, H. R. C. Rutherford, J. Cotter, A. Fitzgerald, J. O'C. Donelan, and W. R. Dawson (Hon. Sec.). Expressions of regret for inability to attend were received from Drs. M. J. Nolan, J. A. Oakshott, and P. O'Doherty.

The following resolution was proposed by Dr. Donelan, seconded by Dr. J. J. Fitzgerald, and passed unanimously in silence:—"That we have heard with deep regret of the sad affliction which Dr. Finegan has recently sustained by the death of his wife, and we tender to him our sincere sympathy."

The minutes of last meeting were read, confirmed, and signed, and the Hon. Secretary reported shortly on certain matters arising out of them.

The invitation of the Hon. Secretary to hold the Spring Meeting of the Division at Farnham House, Finglas, was unanimously accepted.

The assistance of the members was invited in obtaining information for the Committee on Reform of Criminal and Civil Procedure.

The Hon. Secretary read for Dr. M. J. Nolan, who was unavoidably absent, a paper entitled "Some Aspects of 'Maniacal-Depressive Insanity.'" (See p. 45.)

Dr. Cotter read a "Report on 31 cases of Maniacal-Depressive Insanity which came under Treatment in the Down District Asylum during the year ending December 31st, 1907." (See p. 52.)

Dr. Donelan read for Drs. J. M. Redington and P. J. Dwyer a "Report on the occurrence of Maniacal-Depressive Insanity amongst the male admissions to the Richmond District Asylum in the year 1907." (See p. 56.)

Dr. Drapes read a paper "On the Maniacal-Depressive Insanity of Kraepelin." (See p. 58.)

The papers were discussed by Drs. Rainsford, Dawson, Mills, and Donelan; and Drs. Cotter and Drapes replied.

The meeting terminated with a vote of thanks to the President and Fellows of the Royal College of Physicians for the use of the College Hall.

AUSTRALASIAN MEDICAL CONGRESS HELD IN MELBOURNE, OCTOBER, 1908.

Contributed by Dr. W. BEATTIE SMITH.

The Section of Neurology and Psychiatry was well attended, and much interesting work engaged in. The Presidential Address of Dr. Eric Sinclair, Inspector-General of the Insane in New South Wales, was very comprehensive, and dealt with the whole subject of treatment and administration as adopted in the various States of the Commonwealth. This, however, together with Dr. Sinclair's paper on "The Recent Hospital Provision for the Acute Insane in New South Wales" will have separate notice. Dr. Sinclair's paper was read, and plans exhibited at the Reception House, Royal Park, where the Section met, and where Dr. Jones, Inspector-General of Insane, Victoria, and Dr. Godfrey, the Resident Medical Superintendent, explained the working of the House, and guided the members round that building, as well as the new Acute Mental Hospital in course of completion.

The treatment of "Stammering with Special Relation to Respiratory Exercises" was dealt with by Dr. Garnet Leary, of Sandringham, and was much appreciated, particularly as the Doctor described his own case. "The Treatment of the Insane in Private Practice" was the subject of papers by Dr. Chisholm Ross, of Sydney, and Dr. Beattie Smith, of Melbourne. Dr. Ross's paper, which was read for him in his absence, embraced such subjects as the qualifications for dealing with insanity and borderland cases, the improvement in methods of treatment in the annexe to the Sydney Reception House for non-certified cases recently established by Dr. Sinclair, and the desirability of treating suitable cases in private, as well as general hospitals with requisite safeguards and without certificates. Dr. Beattie Smith's paper commenced by a *résumé* of measures urged by him in furtherance of treatment made many years ago, some of which are now bearing fruit. The main portion of his paper centred on the subject of treatment without certificates in approved houses under notification and inspection, but without official visitors. "Many cases," he said, "were certifiable, which should not be certified, and still more were not certifiable, and yet needed definite treatment." "The incipient insane for the most part required removal from their usual surroundings, rest, experienced nursing, proper food, curative companionship and skilled medical attendance," and should be treated apart from the certified insane, "since, to deprive anyone of his liberty on incorrect

diagnosis through insufficient observation was a matter to be studiously avoided, and the admission of such cases to licensed houses receiving the fully certified was not to be thought of." Notification and inspection were the keynotes to this form of treatment, which had for its object, early care, privacy, and skilled treatment under supervision. Dr. Beattie Smith emphasised his remarks by stating that the treatment of the mentally afflicted by the inexperienced, and under unsuitable conditions had developed to a great extent. These two papers were in accord on many points, and to them, as well as to the Presidential Address, a valuable paper by Mr. T. Prout Webb, K.C., Master in Lunacy in Victoria, was markedly complementary. Mr. Webb elaborated under three headings: "The Legal Duties and Responsibilities of the Medical Profession in Matters of Lunacy." Those headings were, "first, the legal which cares only for the due and proper care and protection of the person of the patient and of his estate, and provides for the well-being and requirements of society; second, the medical, which views the case from a remedial standpoint only, necessarily including the care of the person; third, the sentimental, which regards only the feelings and susceptibilities of the patient's family, caring only to a minor degree for the personal treatment of the patient, and often unduly disregarding his advantage and best interests." This paper will not bear the pruning knife of short comment, and merits fuller reporting; suffice it to say, however, that he agreed that some such statute law as exists for the State-certified insane in Victoria might be made available with modifications for private patients, and thus supersede the common law—a matter contended for by others. Discussion on those papers was restricted for want of time, and by reason of the need for avoiding, as the President remarked, the importing of matters of local State policy, which visitors could not take part in.

The Honourable Dr. Creed, of Sydney, read papers on "The Treatment of Alcoholism" and "Hypnotic Suggestion as a Therapeutic Agent." Dr. McCreery, of Melbourne, whose paper was taken as read, in treating the "Psychology of Crime," dwelt chiefly on the practical steps which should be taken to carefully study all defective and backward children in schools and in institutions, as well as in private life where parents would co-operate. Dr. Barker, Medical Superintendent of the Kew Hospital for Insane, detailed a history of cases of typhoid fever, in which mental improvement had occurred after the fever, and was daring enough to suggest that from certain observation of the conditions in some forms of mental disturbances, typhoid might some day be introduced as a curative agent under control. In connection with the same epidemic Dr. Hollow, the Senior Medical Officer, wrote, or rather spoke, a most exhaustive paper on the subject of typhoid carriers, which, we hope, he will condense for publication. Dr. Hollow's work was much appreciated, and he thanked Dr. MacKeddie, the Departmental Pathologist, for kindly and valuable assistance.

Dr. Kate Hogg, Junior Medical Officer, Hospital for the Insane, Callan Park, New South Wales, in a paper entitled, "The Relations of the Female Pelvic Organs to Insanity," said that, when appointed by Dr. Sinclair, she was asked to pay special attention to the cases where pelvic disease was associated with insanity, and was surprised to find comparatively few with definite signs and symptoms suggesting pelvic lesions. Dr. Hogg next turned her attention to dementia præcox, where she now believed there are well-marked anatomical defects in the pelvic organs in the majority of cases; absence or excess of ovarian secretion being a factor through metabolism not to be disregarded in insanity. The subject was dealt with under various headings—"first, the relation of the functional disorders to insanity; second, the relation of pathological pelvic lesions to insanity; third, the relation of operations on pelvic organs to insanity." This paper received marked attention, and we hope to deal more fully with it.

From Dr. Gamble, Medical Superintendent, Ararat Hospital for Insane, Victoria, we had a carefully prepared paper on "Dementia Præcox," which was much appreciated, considerably more time than usual being allotted to it with the President's permission. Dr. Gamble dealt with a controversial subject, which is chiefly approved of by some Continental and American specialists, but not by any means so by British authorities. The working out of the cases written about and shown to members was very thorough, and regret was expressed that time did not permit discussion. The President, however, suggested that perhaps Dr. Gamble might follow out investigations somewhat on the lines adopted in the paper read by Dr. Kate Hogg. Dr. Steell, Medical Superintendent of the Ballarat Hospital for Insane, read an abstract of his paper on "The Progress in Treatment of the

Epileptic Insane," and also some notes from a paper on epilepsy by Dr. G. A. Hogg, Senior Medical Officer, Kenmore, New South Wales. A paper on "Dysentery," by Dr. Prior, Senior Medical Officer, Paramatta Hospital, New South Wales, was taken as read. Dr. Davidson, Medical Superintendent of the Callan Park Hospital, New South Wales, in a paper opening a discussion on syphilis, gave an historical view of the disease, and saying that, "as a factor syphilis must not be treated with closed eyes." He said the causation was still in need of absolute confirmation, but strong evidence had been produced to show that the cause is a Spirochæte, with the life-history of which organism there are still many gaps to fill before the cycle is complete. Dr. Davidson said few scientific data help us in a diagnosis of the relations of syphilis to nervous diseases, but the treatment by iodides and mercury helped in showing our suspicions had been justified. The Argyll Robertson pupil and lymphocytosis of cerebro-spinal fluid help to confirm the diagnosis. Theories of the relation between syphilis, tabes, and general paralysis of the insane were also touched upon and authorities quoted. In connection with the section of children's diseases, opportunity was taken to have a combined meeting, when a "Lantern Demonstration of the Brain in Amentia" was given by Dr. A. W. Campbell, of Sydney. The demonstration was valuable to each section, and followed a display of cases of juvenile cretins and mongolism by Dr. A. J. Wood. A paper entitled "Recent Investigations into the Pathology and Treatment of General Paralysis and Tabes Dorsalis," with original microscopic slides, by Dr. Ford Robertson, Pathologist to the Scottish Asylums, Edinburgh, was read by Dr. MacKeddie, the Pathologist of the Hospitals for Insane, Victoria. We hope to print this in its entirety. Dr. Flashman, of Sydney, in speaking to the paper, said:—"I think we must all regard it as a very high compliment to this section that Dr. Ford Robertson has found time to send us a paper and exhibits, and we trust that Dr. Robertson will look upon the request for a paper made to him by our Secretary as an acknowledgment on the part of this section of the high esteem in which he is held as a neuropathologist. We are all of us familiar with the great work of Dr. Ford Robertson in regard to general paralysis and tabes, and, on viewing the preparations of diphtheroid organisms shown in the next room, one cannot but admire the mastery of technique shown by Dr. Robertson, who, in almost every subject that he takes up, seems to be able to evolve a specially suitable method for his purpose. The granules shown in some of his preparations are most striking. Some time ago Dr. Eyre and myself made some investigations in regard to the presence of these organisms in the insane. For the purpose of that investigation we used blood serum tubes, and I think that our results can be compared with the results obtained by other investigators who have dealt with these organisms. Some of my more recent experiences, however, with Robertson's Byno-hæmoglobin Agar have convinced me that, when searching for the presence of a diphtheroid organism in any material, one more often gets a positive result with this medium than with ordinary agar or blood serum. As to the view I now take as to the rôle of these organisms in tabes and G.P., that will be expressed in a paper Dr. Latham and I intend presenting to the section later on, but I think I may here say that I feel that the subject of the frequency of the presence of diphtheroid organisms in the bodies of the insane should be again taken up, using especially Ford Robertson's own methods. Using the ordinary methods, Dr. Eyre and I have obtained certain results which I think we carefully and accurately arrived at, and which I still think can be relied on. On the grounds, however, that Ford Robertson still succeeds in finding the organism in a very large percentage of cases of G.P., and that I myself have occasionally been surprised to find a good growth on Byno-hæmoglobin when there was none of blood serum, I intend to again investigate the matter."

Dr. MacKeddie, Dr. Latham, Dr. G. A. Smith, Dr. Jones, and Dr. Beattie Smith also spoke. Following upon this Dr. Flashman read a paper, by himself and Dr. Latham, of New South Wales, on "The Effects Produced in Animals by Prolonged Administration of Diphtheroid Organisms and their Toxins," with microscopic slides. These slides and Dr. Robertson's were exhibited in a well arranged series of microscopes in a special room under Dr. MacKeddie and Dr. Flashman after the papers were read. Dr. Flashman's own paper is not yet to hand. Dr. MacKeddie, for want of time, kindly took his paper on "Cranimetry of the Insane" as read.

Regret was felt that by error a demonstration of "Freezing Histological Methods for Small Laboratories" by Dr. Latham was forgotten at the last sectional meeting.

We think, with the evidence of work displayed in this section of congress, and the

congestion of good matter which had to be crowded out, that New South Wales, when we next meet, would do well to, as far as possible, specify and limit the work, in order that more benefit may be gained, and much labour not go unrequited.

OBITUARY.

HARDINGE FRANK GIFFARD, M.A., F.S.A., Commissioner in Lunacy.

By the death of Mr. H. F. Giffard, from acute peritonitis, at Buxton on October 11th, the English Lunacy Commission has again been deprived of one of its members, who, although he had only been in office for eight years, had become the Senior Legal Commissioner on the lamented death of Mr. Urmson in September, 1907. Mr. Giffard was the son of the late Judge Giffard, and was born at Hampton Wick in 1860. He was educated at Merton College, Oxford, and was called to the bar in 1887. In the administration of 1886-92, and again in that of 1895, he acted as private secretary to his uncle, Lord Chancellor Halsbury. In the latter year he was appointed Secretary to the Lunacy Commission in succession to Mr. G. H. Urmson, and on the death of Mr. Frere in 1900 he became a member of the Board. He held sound views as to the duties of Lunacy Commissioners and their primary function in the guardianship of the insane, views which found expression in the evidence he gave before the Royal Commission on the Care and Control of the Feeble-minded. He was of sturdy physique, and fond of all forms of active exercise; but he was especially devoted to antiquarian research, which, with him, was more of a pursuit than a hobby. Doubtless the fact that he came of ancient lineage—for one Walter Giffard was a close friend of the Conqueror—and that many of his forbears had held high office in Church and State, stimulated his zeal in this study; and he was a prominent member of the Society of Antiquaries. It was therefore quite appropriate that he should have been laid to rest at Chittlehampton, in North Devon, of which the fine church contains monuments of the Giffards of the 17th century, whose ancient seat of Brightley is in the vicinity. Needless to add, too, that he was an enthusiastic Devonian. Mr. Giffard married in 1900, and has left a widow and two young children to mourn their loss.

S. C.

JAMES ADAM.

DR. J. ADAM, of West Malling Place, Kent, whose death it is our painful duty to record, was one of the oldest and best known members of our specialty.

Born at Perth in 1834, he obtained his medical education at the Edinburgh University, graduating with distinction. In 1857 he joined the Indian Medical Service, serving through the Mutiny. Quitting this service he became the Resident Medical Officer at Bethnal House Asylum in 1860, later becoming Senior Medical Officer and Acting Medical Superintendent of the female side of Colney Hatch.

In 1870 he was appointed Superintendent of the Metropolitan District Asylum at Caterham, where he remained until 1879, when he became Superintendent of the Crichton Royal Institution, Dumfries, and of the Southern Counties Asylum.

Retiring from public asylum work, Dr. Adam acquired in 1883 the West Malling Place Private Asylum, which he continued to direct until the onset of the illness that proved fatal.

The successive appointments held by Dr. Adam are sufficient evidence of his great professional capacity, which was manifested by untiring energy and zealous desire to improve the organisation of the institutions committed to his care. This was especially the case in regard to West Malling, which he practically reconstituted.

His literary contributions on Self-mutilation in Tuke's *Dictionary of Medicine*, and others in the *Journal of Mental Science*, *Lancet*, etc., are evidence of his interest in the scientific side of his life's work.

Dr. Adam, like many other private asylum superintendents, took an active part in the affairs of his locality, where his loss will be felt by a numerous circle of friends. He leaves a widow, four sons, and four daughters to mourn his loss. His own failure of health dated from the death, two years ago, of a son whose health

had been broken by service in the South African war. This led to his deciding to retire from active work. With his accustomed energy and decision he had commenced building a house at Hythe, in Kent, to which he intended to remove. His fatal illness pathetically anticipated this intention.

ALEXANDER ROBERTSON.

On the 16th of December there passed beyond a well-known member of our Association, Dr. Alexander Robertson, a man esteemed and beloved by all who knew him, and most so by those who knew him best.

Born at Rutherglen, he took the degree of M.D. at the Glasgow University in 1855, and after filling the post of House Surgeon to the Glasgow Infirmary he became Assistant Physician to the Royal Asylum at Gartnavel. From this time he devoted much attention to the study of nervous and mental diseases. After leaving Gartnavel he became Superintendent of the City Parochial Hospital and Asylum in Glasgow, an office by no means easy to fill. Here he soon began to earn distinction by his observations on insanity, which were many and various, embracing diagnosis, pathology, and treatment. At the International Medical Congress at London in 1881, Dr. Robertson's papers on "Percussion of the Skull" and on "Unilateral Hallucinations" were pronounced the best contributions that came from the north.

Dr. Robertson's mind was of too comprehensive a character to suffer him to remain within the bounds of a specialty. At the Parochial Hospital he always had wards for ordinary patients; and when he retired from this situation about twenty years ago he was appointed Visiting Physician to the Glasgow Royal Infirmary. After lecturing for some years on insanity he was in 1889 appointed Professor of the Practice of Medicine in St. Mungo's College. As a teacher he was much liked by the students, and he was very successful in imbuing them with a love of the healing art. While skilful both in diagnosis and pathology Dr. Robertson gave his best attention to therapeutics. He resigned his professorship about nine years ago, but still remained a consultant in Glasgow, where his advice was especially sought in nervous diseases and in insanity. He remained to the last Consulting Physician to the District Lunacy Board and Physician to the Old Men's and Old Women's Home. Dr. Robertson was president of various medical societies in Glasgow, and Examiner for the triple qualification.

In the spring of 1901 I went with Dr. Robertson to Italy, where his inexhaustible good humour, genial sense of enjoyment, and interest in history and art made him a most agreeable companion. During the leaves which he managed to obtain he travelled widely. He twice crossed the Atlantic, and visited Syria and most countries of the continent of Europe.

In 1905 he was much gratified by a dinner given to him at Edinburgh by the Scottish Branch of the Medico-Psychological Association to signalise the fiftieth year of his medical work.

Dr. Robertson had a dignified benignity of manner; in examining a patient, as in everything else, he showed the patience and thoroughness of all his mental operations. When he got up to speak at a meeting one might be sure that he would not stop till he had made a full sweep of the subject. He was the author of numerous papers in various medical journals. A good specimen of his comprehensive method of dealing with a subject may be studied in his article on "Post-Apoplectic Insanity" in Tuke's 'Dictionary of Psychological Medicine.' He also wrote the section of insanity for Finlayson's 'Clinical Manual for the Study of Medicine.' For the last few years Dr. Robertson was in weak health; but he continued to attend to his professional duties till about a fortnight before his death from an attack of heart failure. He had reached his seventy-fifth year. He leaves behind him two sons (who both entered the medical profession and did duty in the South African war) and one daughter, who is married.

WILLIAM W. IRELAND.

EDWARD WHISHAW HENLEY.

We record with much regret the death of Mr. Edward Whishaw Henley, the Medical Superintendent of the Gloucester County Asylums. Mr. Henley, who was only fifty-four years of age, had not been in robust health for a considerable time, but he was at work to within a few days of the date of his death, November 14th. He died after an operation for the removal of a gangrenous and perforated appendix. After qualifying in 1876 Mr. Henley became a clinical assistant at St. Luke's Hospital, and afterwards held the posts of House Surgeon in the Belgrave Hospital for Children and in the Whitehaven and West Cumberland Infirmary. He then returned to asylum work, to which in connection with the Gloucester County Asylums (Wotton and Barnwood) he devoted the last twenty-six years of his life. For twenty-two years as Senior Assistant Medical Officer he had charge of the second County Asylum at Barnwood, and on the death of his chief, Mr. F. Hurst Craddock, he was made Superintendent of both Asylums.

From this large sphere of usefulness death has removed him in less than two years from the date of his appointment, and to-day the county mourns the loss of an official and his patients the loss of a physician whose ripe experience, sound judgment, and administrative capacity maintained the institutions over which he presided in a state of high efficiency. He did not attend many meetings of his professional brethren nor did he contribute to medical literature, but he ever gave skilled, devoted and sympathetic service to the sick and helpless, amongst whom his life-work was cast. For Mr. Henley's personal friends, his colleagues and subordinates, his supreme and cherished gift was that of seizing and retaining the affectionate regard of all. He had that happy combination of characteristics which evoked and reciprocated the spirit of friendship. The gathering round his grave at Barnwood bore striking testimony to the place which Mr. Henley holds in the memory of those who knew him.

DR. ALIX JOFFROY.

We regret to record the death of Dr. Joffroy, Professor of Psychiatry in the Faculty of Medicine of Paris. As a student of medicine he studied under Duchesne of Boulogne, Vulpian, and Charcot, and thereafter became physician of the hospitals of Paris in 1879. In the following year he was recognised as a professor, and succeeded Benjamin Ball in 1893. He was President of the Société médico-psychologique, and elected a member of the Academy of Medicine in 1901, and last year was chosen President of the new Société de Psychiatrie.

Besides his *Clinical Lectures* Dr. Joffroy wrote various books on nervous and mental diseases, and was one of the editors of *L'Encephale*. His last contribution to that journal relates to the mental disorders associated with electrical accidents. Dr. Joffroy's death occurred at the age of sixty-four, and was caused by an attack of angina pectoris in the end of November.

Dr. Gilbert Ballet, physician to the Hôtel Dieu, has been chosen to succeed Dr. Joffroy. He has been Professor of the History of Medicine in the Faculty, and for many years *agrégé* of psychiatry. His learning and powers of oratory are acknowledged—*vir bonus dicendi peritus*.

ADDITIONS TO THE LIBRARY.

List of Books presented to the Library by Dr. Rogers.

- ARNOLD (T.).—Observations on Insanity. 2nd Ed. Vol. i. Lond. 1806.
 BAIN (Alex.).—Mind and Body: Theories of their relation. Lond. 1873.
 BEACH (F.).—Physiological Medicine in John Hunter's time. Lond. 1891.
 BUCKNILL (J. C.).—Psychology of Shakespeare. Lond. 1859.
 CALMEIL (L. F.).—La Folie. 2 Vols. Paris. 1845.
 CAZAUVIEILH (J. B.).—Du Suicide. Paris. 1840.

- CAZANAVE (A.).—Traite des Maladies du Cuir Chevelu. Paris. 1850.
 CHAUSIT (M.).—Maladies da la Peau. Paris. 1853.
 CLARK (Sir J.).—Memoir of John Conolly, M.D. Lond. 1869.
 GUERIN (A.).—Elements de Chirurgie Operatoire. Paris. 1855.
 GUISLAIN (J.).—Traite sur les Phrenopathies. Bruxelles. 1883.
 HOWE (S. G.).—Causes of Idiocy. Edin. 1858.
 International Medical Congress, 1881. Transactions. Vol. i—iv. Lond. 1881.
 Journal of Mental Science. Miscellaneous bound and unbound volumes.
 MAUDSLEY (H.).—Body and Mind. Lond. 1870.
 " " Responsibility in Mental Disease. Lond. 1874.
 MILLARD (W.).—Manual for Classification, Treatment, and Education of the Feeble-minded, Imbecile, and Idiotic. Lond. 1866.
 New York State Commission in Lunacy. 6th Annual Report. 1893-4.
 PRICHARD (J. C.).—Treatise on Insanity. Lond. 1835.
 RAY (I.).—Medical Jurisprudence and Insanity. Lond. 1839.
 RICORD (P.).—La Syphilis. 2nd Ed. Paris. 1856.
 ROBERT (M.).—Traite des Maladies Veneriennes. Paris. 1853.
 St. Andrew's Medical Graduates' Association. Transactions. Vols. i—vi. 1867—1873.
 St. Bartholomew's Hospital Reports. Vol. vi. 1870.
 St. George's Hospital Reports. Vol. v. 1870.
 TUKE (D. Hack).—Influence of the Mind upon the Body. Lond. 1872.
 " " History of the Insane in the British Isles. Lond. 1882.
 " " Reform in the Treatment of the Insane. Lond. 1892.

Presented by the Publishers.

The Nursing Handbook of the Medico-Psychological Association. 2 Copies. 1908.

Purchased.

Four copies of the Report of the Commission on the Feeble-minded. Mind and its Disorders, by Dr. W. H. B. Stoddart.

NOTICES BY THE REGISTRAR.

NURSING CERTIFICATE.

177 candidates entered for the November examination. The lists are not yet completed.

The next examination for the Nursing Certificate will be held on Monday, May 3rd, 1909.

CERTIFICATE IN PSYCHOLOGICAL MEDICINE.

The examination for the Professional Certificate and Gaskell Prize will be held early in July, 1909.

PRIZE DISSERTATION.

Competitors are reminded that essays must reach the Registrar prior to June 15th, 1909.

Circulars will shortly be posted to assistant medical officers giving particulars of the Professional Examination and Prize Dissertation.

NOTICES OF MEETINGS.

Quarterly Meeting.—The next meeting will be held at Cambridge, on February 23rd, 1909. The General Secretary will feel much obliged if members who wish to contribute papers will communicate with him at their earliest convenience.

South-Eastern Division.—The Spring Meeting will be held, by the courtesy of Dr. Pasmore, at the Croydon Mental Hospital, on April 27th, 1909.

South-Western Division.—The Spring Meeting will be held, by the courtesy of Dr. Nelis, at the Newport Borough Asylum, Caerleon, on April 30th, 1909.

Northern and Midland Division.—The Spring Meeting will be held on April 20th, 1909.

Irish Division.—The Spring Meeting will be held on April 22nd, 1909.

APPOINTMENTS.

Bagnell, R. G. A., M.B., Ch.B.Edin., Assistant Medical Officer, Wye House Asylum, Burton, Derbyshire.

Lilley, C. H., M.B., Ch.B.St.And., Second Assistant Medical Officer and Pathologist to the Dorset County Asylum.

Reid, D. MacKinlay, M.B., Ch.B.Glasg., Second Assistant Medical Officer, Govan District Asylum, Hawkhead, Paisley.

Shaw, C. J., M.D., F.R.C.P.Edin., Medical Superintendent to the Argyle and Bute District Asylum, Lochgilphead.

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*Presidential Address in the Section of Neurology and
Psychiatry of the Australasian Medical Congress
held at Melbourne, October, 1908.* By ERIC SINCLAIR,
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GENTLEMEN,—I have to congratulate you on again forming an independent Section of Psychiatry, and that the term "Neurology" is allied with it. In the second Congress in Melbourne there was a Section of Psychology under the presidency of the late Dr. Manning, but in the succeeding Congresses our subject has been merged with that of State Medicine. I trust that you will be able to demonstrate that the placing of it on an independent footing is justified both in the number of papers and in the quality of the work undertaken. The programme before us, fortunately, promises well, thanks in the main to our energetic secretary, and I trust that it will afford us opportunities for instruction and interest.

In seeking a subject for the address from the chair, it occurred to me that there is no readily available comparison of the conditions, legal and medical, connected with the administration of lunacy in Australia; and, as it seemed probable that this might prove of sufficient interest, I have prepared a statement dealing with them. The general principles on which hospitals for the insane are established, and on which the various lunacy statutes are based, are largely similar, not only in the Australian States but in most English-speaking

countries, but there are local variations, and the following general statement shows the provisions necessary in these States for the admission and discharge of patients, the establishment of hospitals and licensed houses, the details of administration, and the more recent methods adopted in dealing with the acute insane. I will endeavour not to weary you with too much technical or legal detail, and will therefore ask for your forbearance if the statements made are occasionally wanting in elaboration.

Admissions.—Admissions to hospitals for the insane in most of the Australian States are by (a) a magistrate's order, or (b) a request by friends, two medical certificates, and a statement of particulars accompanying the papers in each instance. With the exception of criminal patients, for whom there is a special procedure, the only other method of admission is by the order of a judge of the Supreme Court, or of the committee appointed by it where the patient has been declared insane by the Court. This latter, however, does not obtain in South Australia.

Admission on magistrate's order.—The magistrate's order requires to be signed by two justices of the peace or by a police magistrate, who in most States carries the same authority as two justices. In South Australia, however, one justice may order a pauper patient's admission, unless there is a charge of neglect or cruel treatment, when a second justice is to be called in. In this State also and in Tasmania one medical certificate is sufficient to support the magistrate's order.

Before the magistrate can make the order it must be shown that the patient is not only insane, but that other conditions also exist, such as that he was found wandering at large, or was not under proper care and control, or was cruelly treated or neglected by those in charge of him, or was without sufficient means of support, or was about to commit an offence against the law, it apparently being intended that the order should be used only for cases where there is some condition affecting the public interest besides the insanity itself, the other cases being admitted on the request of their friends. With insane patients, whose conditions require treatment in a hospital for the insane, one or other of these qualifications usually exists, and there is but little difficulty, therefore, in dealing with them by this

method. The order does not require other evidence beyond the two medical certificates, but in the discretion of the magistrate it may be received, and in most instances the depositions of the arresting constable or of those who brought the patient to the police are obtained. The magistrate's order is for admission to a hospital for the insane, but in New South Wales and Tasmania it may also be addressed to a licensed house: in the other States admission to a licensed house is by request only.

Orders in private houses.—The magistrate is also empowered to deal with cases in a private house or at any other convenient place instead of bringing the patient to the Court, but in these cases he is required in some States to send in a formal report of having done so. This provision is infrequently availed of, probably only when a patient is physically unfit to be brought to the Court, which cases it was doubtless originally intended to meet.

Duration of order.—The period for which the order remains in force before admission varies in the different States, New South Wales and Western Australia specifying twenty-eight days, and Queensland forty days, while Victoria, South Australia, and Tasmania do not specify the period. The time is counted from the date on which the certificates are signed and not that of the order. The magistrate in New South Wales and Queensland is authorised to direct the patient's admission into a reception house, hospital, or gaol for immediate treatment, or pending his removal to a hospital for the insane after the order, statement, and certificates have been properly filled in and signed, and for this purpose he is authorised to issue a special warrant on the reception house, usually termed an emergency warrant. Where a second medical certificate cannot readily be obtained the order may be made on one certificate only, provided the second one is secured in the reception house. In this case the emergency warrant requires to be signed by two justices. In South Australia, however, private patients may be admitted to the Hospital itself on one certificate, there being no provision for a reception house in this State, but two additional certificates must be obtained within three days of the admission of the patient.

Admission by request of friends.—The second method of admission is by means of a request signed by a friend, relative,

or guardian. This is intended to be used where the patient is in a position to have his disease dealt with as a medical factor apart from its effect on the public welfare, or where he or his friends are able themselves to make the necessary arrangements for treatment. In this instance two medical certificates are required to support the document in all the States, though in Tasmania the patient may be admitted on one certificate provided the second is obtained within fourteen days of admission. The period for which the request is available after signature varies in the different States, the date from which it is counted being, as with the order, that of the certificates and not of the request. This time is seven days in South Australia and Victoria, ten days in New South Wales, Western Australia and Tasmania, and fourteen days in Queensland.

Statement of particulars.—With both the order and the request a statement of particulars of the patient's name, age, birthplace, previous attacks, etc., requires to be attached to the papers.

Medical certificates.—As to the medical certificates themselves, all the States carefully guard against these being improperly given. The patients must be separately examined by the practitioners, and the certificates must be in two parts, the facts observed by himself, and those communicated by others, and must contain sufficient evidence in the facts observed by the practitioner himself for the detention of the patient. No patient can be admitted on the second part of the certificate alone. The practitioners must not be related either personally or in business, and they must not have any connection with the institution to which the patient is going, with the superintendent, or professionally attend a patient there. They must be registered in the State in which the hospital is situated.

South Australian patients.—In South Australia the procedure in regard to admission is somewhat different from that described as applying to the rest of Australia. In this State if the patient is a pauper, one Justice of the Peace may give an order on one medical certificate, and the patient need only be insane and a proper person to be taken charge of and detained under care and treatment, without the qualifications required by other States. If he is not a pauper, one Justice with one medical certificate, may still order his admission, if

it is also found that he is wandering at large, but if he is insane and not under proper care and control, or is cruelly treated or neglected, two Justices must adjudicate before the order can be made out. If he is a private patient with relatives able to deal with his case, he may be admitted on the request of a relative or friend with one medical certificate. If the patient is dangerous or criminal two magistrates may make the order on two medical certificates, or if no medical certificate is obtained, the order may still be made out "on other sufficient proof."

Comments on admission through police.—As a rule, patients for whom an order is sought are dealt with in the police court, in a manner which differs from the ordinary offenders who are there for trial only by the courtesy of the magistrate in securing some privacy for them. In Victoria this privacy is provided by Act. The procedure necessarily involves a certain amount of publicity, and all the disadvantages to the patient consequent on his insanity being treated as a legal offence, and although, perhaps, there is no other method readily available at the present time, it by no means commends itself to the medical mind as a proper way of dealing with the disease. Efforts must, therefore, be sustained until some process is found by which the police court procedure can be altogether avoided.

As an endeavour to diminish this evil, the Court in Sydney and in Newcastle in New South Wales, is held in the reception house, one of the rooms there having been gazetted as a police court. The room set apart is the visiting room of the institution, and being furnished for this purpose has none of the suggestion of a court. Although this minimises the evil, it cannot altogether remove the impression from the patient's mind that he is a prisoner and that his insanity is looked on as a crime, and, in any case, it does not deal with all the admissions. In the country towns and in the suburbs of Sydney, which are too distant for patients to be sent to the reception house, the procedure in open court has still to be followed, and although by the arrangement described about half of the cases admitted to New South Wales hospitals are saved police-court publicity, the other half do not benefit by the endeavour.

That the greater number of patients are sent to hospital on a magistrate's order is, perhaps, to be expected in a thinly

populated country like Australia. Where the hospitals are in the neighbourhood of cities patients may be brought to them direct by their friends, but in the country the expense of travelling and of conveying cases long distances prohibits any but those who are well-to-do from undertaking this duty. No alternative, therefore, exists in most cases but to seek the aid of the police, who will obtain the necessary certificates and order, and provide an escort to the nearest hospital. All of us, as medical men, doubtless deplore the necessity for this procedure, but until the country becomes more settled it is difficult to see how it can be avoided. Reception houses cannot be multiplied indefinitely, as they can only be maintained economically in the larger towns. In those of less size the institution and its staff would be unoccupied for considerable periods of the year, and the expense of providing a sufficient number of them to avoid the use of the court and of police would be so considerable that it can hardly be justified with the present limited population.

It might, perhaps, make this clearer if the figures showing the numbers of patients under observation in the gaols in the larger country towns of New South Wales during 1907 are stated. In Goulburn there were 33, in Deniliquin 19, in Broken Hill 18, in Bathurst 14, in Albany 10, in Cooma 10. In all the others the numbers were less, and of the total number dealt with in the State, one in every four only was certified and sent to a hospital for the insane, the others being discharged. The average length of stay of the patients in these country gaols is from seven to ten days, and it is obvious that in one case only—that of Goulburn—would the institution be occupied during the whole of the year.

Perhaps the most easily available remedy would be for the country hospitals to open their doors to insane patients. In Victoria something has been done in this direction, and in Western Australia arrangements are being made to attach mental hospitals to some of these hospitals. In New South Wales, however, any approaches which have been made to these institutions have been met with refusal, and in none of the hospitals are insane patients, as such, admitted for treatment. A considerable proportion of the patients could be treated without difficulty in the local hospitals, if not until the termination of the illness at any rate at the beginning, and

until certificates have been signed. Where a patient is maniacal or dangerous, it might be necessary to use an isolation room, but in most cases this would not be required, delusional cases, demented, and suicidal patients being suitable for the wards for the short time they would be there. The institutions might be subsidised by the State paying the expense of any extra nursing assistance required. Even this inducement, however, has not been sufficient to overcome the reluctance of the hospitals to undertake the care of insane patients. It is surely an anomalous state of affairs, that while those in charge of mental hospitals and interested in improving the condition of the insane should be straining every endeavour to remove the feeling in the community against insane patients, so that they may be looked on as suffering from an illness which only differs from that of other invalids in the organ which is attacked, those responsible for general hospitals should stand aloof, and by refusing to assist in the endeavour should perpetuate the mediæval idea of the mentally afflicted being a class apart from their fellows.

Reception houses.—Reception houses are provided for in the statutes of all the States except South Australia and Tasmania, although only New South Wales, Queensland, and Victoria have built any. In this direction New South Wales was the pioneer, and a meed of praise is due to the late Dr. Manning for his services in establishing and maintaining the reception house in Sydney, which has for so many years served as an object lesson to demonstrate the usefulness of such an institution. Two classes of patients are admitted to the reception house, *viz.*, those in whose cases the insanity has not yet been decided, but who have been brought before a magistrate as deemed to be insane, and those whose insanity has already been determined and for whom the complete papers for admission to hospital for the insane—order or request, certificate and statement—have been made out. In the first case the magistrate has authority to remand the patient to the reception house for a certain period, and to repeat this from time to time as may be necessary. In the second the justices issue a special warrant, which, with the papers for the hospital, accompanies the patient to the reception house.

It is thus clear that the primary objects of the reception house are to deal with cases which have not yet been certified,

and in which there is need of observation as to whether the patient is actually insane or has a prospect of recovery without the necessity of proceeding to a hospital, and to afford a resting place for patients on their way to a hospital, and for whom the proper papers have already been prepared, and not to act as a mental hospital for the acute insane.

It is customary to send on at once those patients whose papers are made out for a hospital unless they are found to be convalescent, when they are of course retained and discharged, the discharge order being signed by a justice of the peace on the certificate of the medical officer. The reception house may receive patients for whom the order or request has been signed with one medical certificate only, this being intended to meet cases so urgent that a second certificate cannot readily be obtained, but in these cases the order for admission to the reception house must be signed by two justices, and the second certificate must be secured before the patient is sent on to the hospital.

The reception house may, without invalidating the order for admission to a hospital, detain cases in transit for a period of fourteen days in New South Wales and Western Australia, and of thirty days in Queensland, or, if the medical officer certifies that the patient is not fit to be moved or will be benefited by further detention, until he certifies that he is so fit. In Queensland the period may be extended from time to time by two justices for seven days at a time.

In Victoria the arrangements by which patients are admitted are somewhat more liberal, and the period for which they can be detained is extended. A case can be received in three ways : (1) by a justice's order, by which with one certificate from a medical practitioner he may be detained for seven days ; or (2) by an order signed by two justices he may be admitted for the same period, which can be extended to a maximum of two months by seven days at a time ; or (3) with a request form of admission supported by two certificates and the statement of particulars he may be received for one month and detained for another month on the authority of the Inspector-General of the Insane and an official visitor. In the first two instances, when ultimately certified, the patient is sent to a hospital on the usual magistrate's order. In the request form of admission the patient is to be examined by the superintendent, and if not found

insane discharged. If found insane he is to be forwarded to a hospital, and the superintendent's order, with a copy of the papers with which he was received, are to be sufficient authority for his admission to the hospital.

In New South Wales no patient is to be sent to a reception house who has previously been detained in gaol for an offence, and in Victoria no person who is under arrest or likely to be charged with an offence. These provisions are intended to prevent it being used by the chronic drunkards who haunt the police courts and suffer from frequently recurring attacks of *delirium tremens*.

Reception cells.—With reception houses are bracketed public hospitals and gaols, so that the benefits of residence in a reception house may be obtained in country towns, but these are not utilised to any great extent, except, perhaps, in Victoria, where in some towns reception wards are maintained in connection with the hospitals. The gaols are, however, largely availed of, as, indeed, they must be in the absence of other more suitable provision. While the necessity for so using them is obvious, the objection to their use because of the associations and the depressing effect on the patient's mind is equally obvious, and has already been referred to. In New South Wales the prison authorities have arranged that in the prisons made use of in this way a cell is gazetted as a reception house under the Lunacy Act, the object aimed at being to mitigate as far as possible the effect on the patient's mind of being described as having been committed to gaol. The names of those received in these reception cells are not placed on the official register of the prisons, and they are attended by special attendants or nurses who are engaged for each case under the direction of the medical officer of the gaol, and are paid for by the Lunacy Department. There is not a great deal in this scheme to commend itself beyond the recognition of the fact that insane patients should be provided for otherwise than in gaols, and its repetition of the necessity for being constantly on the look-out for some improved method of dealing with them.

Voluntary patients.—Only one State, Western Australia, has so far obtained permission to admit voluntary patients. In this instance the patient requires to make personal application to two justices, who may then give consent for his admission

for a fixed period, to a hospital for the insane, on the expiration of which he is discharged, but it may be extended from time to time by application to the justices. Should the patient desire to leave the hospital he must give twenty-four hours' notice. This is made to apply equally to licensed houses and to hospitals for the insane. It is hoped that this example may be followed in the other States, and as far as New South Wales is concerned an amendment has been for a considerable time under consideration to provide similar facilities. Although the exact procedure would be somewhat different, the principles governing the case would be similar. The patient should himself make application either personally or in writing. He should be able to leave the hospital when he so desires, but sufficient notice should be required, so that in the event of his being unfit for liberty there would be ample time for proper action to be taken either by the authorities or by his friends, and for this a longer period than twenty-four hours seems necessary. Voluntary patients also should be seen at each visit of the Inspector-General or official visitor.

Amendment of papers.—In all the States but Tasmania it is provided that admission papers, if incorrect or defective, may be amended within a period varying from fourteen to twenty-eight days, or, as in Western Australia, at any time. The amendments must be approved by the Inspector-General, the Minister, or an official visitor, as may be, according to the State. In Victoria amendments may also be made by direction of the Supreme Court at any time when proceedings in a case are being taken before it.

Examination of patients.—On the admission of the patient into the hospital, some of the States require that a certificate, intimating the patient's mental condition, should be given by the medical superintendent between the second and the seventh day after admission. This certificate is to be forwarded to the head of the department, the Inspector-General or the Minister as the case may be. In South Australia the examination is to be made within forty-eight hours, but no certificate is required. In Victoria each patient is to be examined annually for the first three years, and at five-yearly intervals afterwards by the medical superintendent, or a medical officer of the department specially appointed for the purpose, or in licensed houses, by the Government medical officer. The direction to examine and

report within a short period of admission is undoubtedly a good one, and the arrangement by which the report is sent in not before the second and not after the seventh day gives sufficient latitude for determination in cases where there is difficulty in arriving at a diagnosis, and at the same time removes the risk of the discharge of an insane or dangerous patient because of insufficient observation. It also provides for the medical superintendent becoming personally acquainted with the case of each new patient. The re-examination of old cases at fixed intervals, as is done in Victoria, is also to be commended, so long as it is not made too frequently. The amount of labour involved in such an examination in a large hospital is so great that it is liable to be performed in a hurried or routine manner, and so be deprived of its full value as a means of discovering whether patients are being overlooked, if the re-examinations come too quickly after each other.

Court patients.—In most of the States the Lunacy Acts deal with the methods of declaring a patient insane and incapable of managing his affairs, and for appointing committees of his estate and person. It is also arranged that on his recovery the Court may declare that he has recovered his sanity, and may discharge these committees. These provisions correspond to the well-known “inquisition de lunatico inquirendo,” and provide means of conserving and administering a patient’s property where he is likely to be permanently insane. In New South Wales and Western Australia there is an additional section by which persons may be declared incapable of managing their affairs from mental infirmity arising from disease or age, and in these cases a committee of the estate alone is appointed, and not of the person. This has proved a valuable addition to the law, and enables many persons to take advantage of the protection of the Court who are not so insane as to make it possible for them to be declared so in a formal way. It is at the same time less hurtful to the feelings of the patient and his friends that in slight cases he should be declared incapable rather than insane. There is also provision for the appointment of a Court Visitor, who may be the Inspector-General of the Insane, and who is directed to visit and report, through the Master in Lunacy, the condition of the patients and their homes.

Recapture of escaped patients.—Considerable powers of recapturing escaped patients are given in all the States. In

South Australia the time in which this may be done is limited to fourteen days, in New South Wales to twenty-eight days, in Victoria and Tasmania to three months, but in other States the time is not fixed, so that the patient may be brought back at any time if he is still insane. Criminal patients may, however, be recaptured in all the States at any time.

Transfers.—Once admitted, patients may be transferred from one hospital to another, by an order from the Minister in Charge of the Department, in Victoria by the Inspector-General of the Insane, and in Tasmania by the Governor.

Discharge.—The discharge of patients is usually carried out, on the recommendation of the medical superintendent, by an order from the Inspector-General or an official visitor, and this is the course generally adopted where the patient has recovered. Where, however, the patient has not recovered, and the friends seek the discharge, it may be granted by the Inspector-General or official visitor, on the recommendation of the medical superintendent, if the patient is not dangerous, and if a relative or other friend signs the request for the discharge, and undertakes that he will be properly taken care of. In Queensland the Minister is required to sign the discharge-warrant in this case. Should the Superintendent object to the patient's discharge, it may still be carried out by the Inspector-General or the official visitor, or in Queensland by the Minister, after the objections have been placed in writing, so that they may be carefully considered. In Victoria, however, the official visitor does not discharge, but recommends, in a similar manner as the medical superintendent. Discharge is also granted on the expiration of leave of absence, if the patient has recovered and the medical superintendent recommends it, or if a certificate by a medical practitioner is furnished intimating that the patient no longer requires hospital treatment. A patient may also be discharged on the petition of the person who signed the request for admission, or made the last payment for maintenance, or in the event of these not being available, by the next of kin. He may not be discharged in this way, however, if the superintendent considers him dangerous or unfit, unless the Inspector-General or official visitor accepts the responsibility of over-riding his certificate. Discharge may also be granted by a judge of the Supreme Court where the patient has been brought before

him, and where, after inquiry, he deems the evidence sufficient to warrant his deciding that the patient is sane.

Leave of absence.—All States give authority to grant leave of absence to patients either on trial or simply on leave. The leave is granted by the medical superintendent on the application of a friend, and with the consent in writing of the Inspector-General. A patient may also be given leave of absence by the superintendent without the application of a friend, and he will then be in charge of someone placed in that position by the medical superintendent, or else in his own care. In South Australia and Tasmania leave is granted by two official visitors on the advice of the medical superintendent, and in Queensland one official visitor has the same power. In Victoria the Inspector-General may grant the leave on his own authority without a recommendation. The leave is to be granted for a definite period, except in South Australia, where it may be for any period. The power to give leave of absence has been of inestimable value, and is largely availed of. Not only may convalescent patients be discharged earlier than would be justified without it, or doubtful cases tried outside, but unrecovered patients may be permitted to go to their homes for short periods, and those liable to renewed attacks may spend the intervals with their friends. Again, by permitting a patient to be absent on leave to himself, as it is called, many cases can be allowed to leave the hospital who have not sufficient confidence in their own stability to be discharged. They are aware that they still belong to the institution, and can return at any time they desire, and thus the nervousness they would otherwise feel is allayed. Others, again, who could not well be trusted with the control of their property, may be allowed personal liberty under their own care. It may be of interest to state that the number of patients granted leave of absence in 1907 was—for New South Wales, 314; Victoria, 400; South Australia, 115; Queensland, 115; Western Australia, 52; and Tasmania, 32; a total of 1028, the total number of patients in the hospitals in these States being 14,453. In Scotland, in 1907, 167 patients were granted leave of absence on probation, exclusive of those on twenty-eight days' leave. It is evident that a much greater use is made of this method of discharge in Australia than elsewhere.

At the conclusion of the period for which the leave of

absence has been fixed the patient must return, unless it has been renewed, or he has obtained a medical certificate that he is fit to remain away from the hospital. In the event of neither of these conditions being complied with a patient may be recaptured as in the case of an escaped patient, *i.e.*, within three months.

Mechanical restraint.—In Victoria there is a special provision in the Lunacy Act restricting the use of mechanical restraint. In none of the other States is this thought necessary, and it is probable that even here it would be beneficial to have it eliminated from the Act. There are a certain number of exceptional instances where a patient requires to be restrained, either to prevent injury to himself, or on account of extreme violence or restlessness, and in which the restraining influence of attendants or nurses will be productive of more irritation than mechanical means. The actual number of such cases is, perhaps, small, but it is nevertheless in the interests of the patient that some form of mechanical restraint should be adopted in place of that of the attendant. In all the States an efficient inspection is provided, and inquiry into the cases in which restraint has been used is made by the Inspector-General at his visits. There is, therefore, but little fear of its undue use, whether it is prohibited by enactment or not.

Habitual drunkards, West Australia.—In Western Australia authority is given to admit habitual drunkards to hospitals for the insane, but to a special ward to be set apart for the purpose. This does not commend itself as a thing to be imitated elsewhere. All experience of inebriates and of alcoholic cases shows that they are a difficulty in hospitals for the insane, and that they cannot be allowed to mix with the insane patients without detriment to the latter. If a separate ward is to be provided, it is to be presumed that its recreation grounds and staff would be distinct from the hospital, and as this would involve an increase in the size of the establishment there is no great reason why it should not at once be made an independent institution. If for the purpose of economy the higher officials of the hospital are asked to supervise it, this can be done equally well by having it built on an adjacent site as by combining it with the institution itself. The undesirability of mixing inebriates and insane is recognised in Western Australia, since it is enacted that where a licensed house admits inebriates it must not also

take insane patients. Inebriates are admitted on the order of a judge and after the hearing of two medical witnesses, and for periods up to twelve months, and they may be granted leave of absence for specified periods. They may be recaptured if they escape.

Over-sea patients.—With the view of preventing the importation of insane patients, or of degenerates who may become insane shortly after arrival, the Commonwealth has introduced a clause in its Immigration Act by which it may prohibit the landing of, or may deport patients who are insane on arrival. In addition, in some of the States there is a special provision in the Lunacy Statutes for excluding such cases by making the shipping companies liable for the maintenance of the patient in the hospitals for the insane, or by permitting them to return him to the port of embarkation. In some the patient must be insane on arrival; in others the penalty is enforced if insanity comes on within sixty days of arrival. There is no doubt that these legislative enactments have proved of great value to Australia in diminishing the number of cases which have been sent off by their friends in other countries as undesirables, and have thus been conveniently got rid of, and it would not be wise to relax their stringency.

Removal to other States.—In New South Wales, Victoria, Western Australia, and Queensland the Supreme Court has power to order a patient's removal to any place beyond the State if there are relatives or friends there who are in a position to take charge of the patient. The Court is, at the same time, also given power to make directions as to the patient's maintenance, and that sufficient security for it being continued should be given. The patient transferred to the adjoining State is thus prevented from becoming a burden on the institutions there even though the Court in the original State has no longer jurisdiction over him. Needless to say, this is used only in extreme cases.

Inter-state agreements.—A special provision for inter-state relations was brought into force in New South Wales for the benefit of patients from Broken Hill and district. Before this legislative enactment was made it was necessary to remove Broken Hill patients to Sydney, a journey of more than a week's duration and of an extremely costly nature. The enactment referred to provides that by arrangement with a

neighbouring State—in this instance South Australia—insane patients from New South Wales may be admitted to the institutions of the neighbouring State and maintained there at the cost of the New South Wales Government. Since it was introduced in 1894, 119 patients have been dealt with in this manner, and at the present there are 29 resident in Parkside, and maintained there at the expense of New South Wales. Western Australia and Queensland have made a similar provision in their Acts, but so far have not required to make use of it.

Boarding-out.—In New South Wales, Victoria, and Western Australia provision is made for boarding-out harmless patients. The boarding-out has to be carried out under the authority of the Inspector-General and on the certificate of the medical superintendent that the patient is harmless, and special regulations for its control have to be framed. The conditions of life in Australia differ so much from those in countries which are more thickly settled that boarding-out has not yet become a prominent feature of its lunacy work. For successful boarding-out it is of assistance to have a number of suitable homes in places where families have remained for years. The residents in these cases become attached to the locality, and the environment is such that the insane patients are surrounded by the atmosphere which is most suitable for their welfare. In Australia the people move from place to place as the means of obtaining work vary, and the more settled conditions of life referred to above have not yet been attained. The experience of Scotland and some other countries in this respect is, however, so encouraging that in spite of the local difficulties in Australia it should be tried, and doubtless by introducing the system in a small and tentative manner, and by confining it to suitable localities, it would take root and prove of advantage in reducing the population of the institutions.

Boarding-out to relatives.—There is a provision in New South Wales, Western Australia, and Queensland by which friends and relatives who are willing to take unrecovered patients, but cannot afford to do so, may be granted a monetary allowance, and this has proved of some value. The patient is discharged from the hospital, but if he proves unsuitable for living outside he may be re-admitted on the order of the Inspector-General without other papers. This is boarding-out in a most useful form,

as it ensures the patient a suitable home with his own relatives, and avoids the risk of his being taken merely as a revenue-producing individual. Unfortunately, however, it cannot reach such large numbers as boarding-out proper.

Licensed houses.—In all the States except South Australia and Tasmania there is authority to establish licensed houses. The licence is granted by the Minister for a period not exceeding three years in all but Victoria, in which it is not fixed. However, the practice is to grant a licence for one year only, and this course is to be recommended as it introduces a more efficient control over the institutions. The licensee is aware that unless the house is properly managed, and that unless recommendations are attended to, the licence will not be renewed, and this is more useful than providing penalties for failure to comply with the requirements of the Act. A medical man must reside in the licensed house where the patients exceed a prescribed number—20 in Queensland, 25 in Western Australia, 50 in Victoria, and 100 in New South Wales. Where the number is less than this visits by a medical practitioner must be paid daily, twice a week, or less frequently, according to the number of patients. Where the medical man is resident he must be the superintendent, whether he is the licensee or not, and where there is no medical man resident the licensee must be the superintendent and reside. In Victoria, however, the licensee must be the resident superintendent, whether there is a resident medical officer or not, and he is prohibited from acting as medical attendant on his patients. The arrangement by which the resident medical officer is the superintendent is to be commended, and is following the practice which has been found of so much value in hospitals for the insane themselves. A resident medical officer who is not the superintendent cannot be sure of having all his recommendations carried out, and may be discouraged in initiating improvements and reforms if want of attention to them is shown by the superintendent, who is probably more readily influenced by motives of economy. His appointment gives the necessary authority and control, and can alone ensure that the institution is under proper medical supervision. On the other hand, it is not easily seen what objection can be taken to the licensee, if he is a medical man, attending professionally to the patients in his institution or to his being the

superintendent. No one is more interested than he in seeing that the patients are attended to in the best possible manner, since the reputation of his house depends on this. In Victoria the medical officers and the general staff of the licensed house must be approved by the Inspector-General. It is doubtful if this can prove of much practical value, it being obvious that he cannot very well personally interview and select applicants for these positions, and his approval must necessarily be of a more or less formal character. Although it provides a means of refusing permission for the appointment of persons known to be unsuitable, it is probable that an equally valuable power to prevent this is obtained in the usual inspection. In other States the name of the resident medical officer alone has to be submitted on his appointment.

Licensed houses for single patients.—Licences may be granted for a house with a single patient, and for this the stringent regulations just detailed are not insisted on. The medical visits are confined to that of a practitioner once a fortnight, who must not be related to the licensee, professionally or otherwise. In Victoria the Act permits the licence to be issued in this manner, or with the full conditions of the ordinary licensed house as may be determined at the time the licence is issued.

Paying wards.—In Victoria there is provision in the Act for the establishment of paying wards in the hospitals for the insane, and the Master in Lunacy is given authority to collect charges for maintenance in these wards, and his approval is necessary before a patient can be admitted to them. The patient must also be removed from the paying wards if the Master in Lunacy directs this to be done because of the cessation of payments. This was enacted in 1890 in an amending Act which abolished the licensed houses. In the later Act of 1903 the authority to establish licensed houses has again been granted, and the necessity for this special clause is therefore not now so pressing. There is nothing to prevent any State establishing such wards in its hospitals for the insane, and it is entirely a question of policy depending on the local conditions whether private patients are left to private enterprise or provided for by the Government. A great deal may be said in favour of either plan, and it is probable that the public interests are best met by adopting the middle course of providing for well-to-do patients in both State hospitals and in licensed

institutions. A considerable section of the public would prefer to use the State institutions because of the greater confidence felt in them, but, on the other hand, a number desire the extra comforts and privacy which can better be obtained in a private institution specially established to cater for this class.

Criminal insane.—All the States have special sections in their Acts dealing with the criminal insane, and in New South Wales and Victoria criminal hospitals have been set apart distinct from the other institutions for the detention and treatment of these patients. The numbers who would be admitted do not yet warrant the other States taking this step, and their criminal patients are therefore placed in the general wards. The admission of criminal patients is by warrant of the Minister or the Governor on receipt of medical certificates with the exception of those cases where the patient has been found insane on arraignment before a jury specially selected to try this fact when no medical certificate is required. On the patient's recovery he is discharged by the same authority, *viz.*, the Minister or the Governor on receipt of certificates signed by the superintendent of the hospital, the Inspector-General or other specified medical practitioner. If the sentence is unexpired the patient is returned to prison. If it has been determined by effluxion of time he is discharged altogether. Should the patient still be insane on the conclusion of his sentence, his name is removed from the books of the criminal hospital and he is transferred to a free ward unless he is certified to be homicidal or dangerous, when on a special warrant from the Minister he may be detained in the criminal division. If a prisoner becomes demented and not dangerous he may be transferred to a free ward even though his sentence has not expired. Where a patient has been acquitted of his crime on the ground of insanity he becomes a Governor's pleasure prisoner, but in most States he does not consequently become a patient in a hospital for the insane. It is still necessary to obtain certificates of his insanity and forward these to the Governor, who then authorises his admission to the criminal hospital. These cases may be discharged conditionally, which amounts to granting leave of absence on trial, a concession which is not permitted to other criminal patients in any but South Australia. In most of the States it is enacted that a patient committed for trial on

account of attempted suicide if insane may be certified by two practitioners and sent on to an ordinary hospital for the insane, and that on his recovery he may be discharged by the Inspector-General in the usual manner; he is then not liable to be tried for his offence.

Observation wards.—In New South Wales, Western Australia and Queensland, it is provided that observation wards shall be established in the gaols, and that prisoners serving sentence who appear to be insane must be placed in them by the prison authorities. These wards are visited by the Inspector-General of the insane, and a prisoner once admitted can only be removed on a certificate signed by him and another medical practitioner whether he is to be discharged recovered, or certified and transferred to a hospital. This is the only instance in which the Inspector-General is permitted to sign a certificate for admission.

Legal proceedings.—All the States among various other legal technicalities provide for a penalty of £20 or six months' imprisonment for neglect or ill-treatment of a patient on the part of any of the officers or staff. At the same time, however, they afford protection to the staff in that proceedings may not be taken in connection with any act if it has been carried out in good faith and with reasonable care, and in New South Wales, Victoria, and Western Australia, no suit lies unless it is begun within three months after the act or of the discharge of the patient from the hospital. In South Australia this bar also exists but for twelve months.

SECOND PART.

It would be wearisome to enumerate the other more technical points in the lunacy enactments as they refer more particularly to the formal question of law, the powers of the Master in Lunacy, or the administration of property, and are not specially interesting medically, and I turn therefore to describe the general administration of the hospitals, their management and inspection, their staff, and the methods of dealing with the acute insane, and with recent admissions.

Administration of hospitals for the insane.—Hospitals for the insane in Australia are State institutions supported wholly from the public revenues, any monies collected from patients

or their friends for maintenance being paid into the public funds and not reserved specially for the upkeep of the institutions.

Master in Lunacy.—An officer appointed by the State, the Master in Lunacy becomes the public trustee of patients admitted to the hospitals, and is clothed with the necessary legal powers to administer their affairs from the moment of their admission. He also fixes the rate of maintenance paid according to the means of the patient or his friends, and collects and pays it to the State. The institutions are thus relieved of the responsibility and the labour connected with these financial matters, and this is no small boon. At the same time, the administration of the estates of patients is probably more efficiently carried on by a department specially devoted to the purpose. In South Australia and Tasmania, however, arrangements for a Master in Lunacy have not so far been made, and the duty of managing the patients' property is imposed on the hospital authorities.

Title of hospitals.—The State institutions are called "hospitals for the insane" in all but South Australia, where the word "asylum" still obtains, the intention being to avoid the suggestions associated with the older term. New Zealand has lately adopted the name "mental hospital" for its institutions, and this is perhaps even better and more euphonious than "hospital for the insane" in use here.

Licensed houses.—In only two States are there licensed houses or private institutions apart from the State hospitals, *viz.*, Victoria and New South Wales, and in these the number of patients is 172, amounting to 1·7 *per cent.* of the whole number of patients in these States.

Inspector-General.—The hospitals are maintained by the States, apart from the Commonwealth, and form in each a distinct service. The administration is by an Inspector or Inspector-General, who is the official head of the department, and who combines in his office the duties of Commissioners of Lunacy and of a departmental administrative head. The full responsibility of the administration rests with him, and he appoints and dismisses the general staff, nurses, attendants, and outdoor staff. The higher officers, medical officers, clerks, etc., are not appointed by him except in Victoria, but in most cases he is consulted and his recommendation guides the

appointment. The medical officers are appointed to the department and are transferred from one institution to another as the service requires, receiving promotion according to merit or seniority.

The Inspector-General of the insane is required to pay formal visits of inspection in New South Wales and Queensland at least once in six months, in Victoria and Western Australia once in three months, but, as a matter of fact, visits are made much more frequently for administrative purposes. In South Australia and Tasmania, where the number of hospitals is yet small, an Inspector-General has not been arranged for, his duties being carried out by the official visitors of the institutions with the medical superintendents, and in Western Australia and Queensland the Inspector also acts as superintendent of one of the hospitals. In Victoria the Inspector-General is appointed for a term of five years, and to increase his independence he is placed outside the Public Service Acts, and is removable only by Parliament. In other States the appointment is like that of most public officers without a limit of time.

Official visitors.—Official visitors also are appointed, who are directed to visit once a month in some States and once in three months in others, in South Australia once a week. Of these visitors one requires to be a medical man and one a member of the legal profession, or a magistrate, two at least being appointed for each hospital. In South Australia the number is six, and no profession is definitely specified. In Victoria the qualifications of the official visitors are that they must be justices of the peace, otherwise there is no profession specified. In this State also the same official visitors are to be appointed for all the metropolitan hospitals, others being selected for the country institutions. The appointment of official visitors is not for any fixed time, except in South Australia and Tasmania, where it is for one year, subject to reappointment annually. The same official visitors may be appointed to more than one hospital, and they may be appointed to hospitals for the insane, hospitals for criminal insane, or to licensed houses. To ensure their independence they are not permitted to sign certificates for admission to hospitals or licensed houses, nor to attend professionally a patient in a licensed house, or have direct or indirect interest in it. In Victoria, however, it is provided that the official visitor may not visit the licensed

house while he is attending a patient in it, which would appear to extend to him a right, denied in the other States, of attending one of his patients there, provided he suspends his official visits for the time being.

The official visitors are directed to inspect in much the same terms as the Inspector-General, but they have no administrative control, and they report on each visit to the minister under whom the Lunacy Department is placed. The special value of official visitors consists in their being available as an outlet for patients' complaints, and to satisfy the friends that there is someone outside the officials of the department who will see the patients and be able to investigate complaints and report on possible abuses. While their inspections are guided by this principle, it may be felt that the appointment is of advantage, and for this purpose it is probably more valuable to select official visitors from those residing in the neighbourhood of the institution, and to confine each appointment to a single hospital. In this way the visitors would acquire a distinct interest in the hospital itself, and would avoid the risk of creating what might easily become a class of professional official visitors.

Inspection of licensed houses.—As regards licensed houses, the Inspector-General has the same powers of inspection as for the State hospitals, and although he is not placed in charge of their administration, any recommendations or instructions he may give are, as a rule, readily carried out. His relation to the patients, as to admission, discharge, leave of absence, etc., are in all respects similar to those in the public institutions. Official visitors, too, where appointed to licensed houses, carry on their inspections on the same lines as in the State hospitals and report in the same manner.

Inquiries.—Both Inspector-General and official visitors have power to summon witnesses and examine them, on oath if necessary, in connection with any inquiries which they may have instituted in relation with their duties.

Inspection of patients in private houses.—Where uncertified patients are treated in private or unlicensed houses, there is no provision for official inspection. In some of the States, New South Wales, Western Australia, Queensland and Victoria, it is provided that where a patient is kept more than a year, even if by a relative or by someone who derives no profit from the case,

should there have been any restraint or coercion at any time during the year, the case must be reported to the Minister, who can direct an inspection to be made, and if it is found that coercion or restraint has been used, may then order his removal to a hospital for the insane. This is intended to provide against ill-treatment of patients in private houses, but it does not cover the cases of insane patients placed under treatment in nursing homes which have not taken out a licence. As yet none of the States have made provision for permitting patients in the early stages of their disease to remain under private care on the certificate of a medical man, and none of the States have approved of insane patients being detained other than in hospitals for the insane or licensed houses, and most of the States have directly prohibited it. At the same time there is no doubt it is carried on to a considerable extent, and, it must be recognised, not altogether without advantage to the community. It would, therefore, be advantageous to give statutory permission for the practice under suitable regulations. The stigma of insanity consists almost more in the certifying of the patient than in admission to a hospital for the insane, and if in a recoverable case this can be avoided, the State should be expected to facilitate it. At the same time a two-fold risk must be guarded against, firstly, that nurses or others, who mainly desire to obtain an income from the patients, may detain them in unsuitable premises, and secondly, that patients are not kept in nursing homes where, through want of familiarity with the treatment best suited to cut short the attack, otherwise curable cases become chronic. Active ill-treatment or neglect need not be considered here, as with this class of patient it is not at all likely to occur. There is already ample power to deal with it under sections of the Act. It would appear useful to permit the treatment of uncertified mental patients in suitable private or unlicensed houses on a certificate from the medical attendant corresponding to that required in notifying infectious diseases. Under this arrangement, when a patient with mental disease is being treated in a nursing home or private house, the case would be notified by the medical attendant to the Inspector-General of the insane, a copy of the certificate being left with the person in whose care the patient is to be. The Inspector-General would then have a right to inspect, although it may not be necessary that he should do so in every case. Whether

he visited or not depends on the facts as disclosed in the certificate and on other features of the case, such as its duration, its nature, his knowledge of the parties, etc. The length of time for which a patient is to be so treated should be defined, and if desirable the number of the cases to be received in any one house, or taken charge of by any one individual, could also be limited. Such an arrangement, by its simplicity and the ease by which a patient could be brought under its action, should secure ample provision for the early treatment of acute mental cases. It should, at the same time, go a long way towards educating the public to place insanity on the same level as other diseases, as they would become familiar with cases of mental disease treated by ordinary practitioners outside hospitals for the insane, and alongside ordinary illnesses. When in course of time these patients recovered and again resumed their place in the community, the stigma which at present follows an attack of mental disease would be considerably lessened, since in most cases the nature of the illness would not be generally known, as would have been unavoidable had they required to be treated in an institution for the insane.

Medical staff.—The medical staff of the hospitals, following the generally adopted custom, consists of a medical superintendent, with such assistant medical officers as the size of the institution warrants. The proportion varies considerably in the different States from one medical officer to 500 patients upwards to one medical officer for 200 patients. In most the economic point of view has been dominant in deciding on the medical staff, and there has been an evident desire to appoint no more than sufficient to cope with the work. This means that the officers have their time so fully occupied with routine work that but little is left for scientific research or for the advancement of our knowledge of insanity. It must be agreed that this is a mistaken policy, and that if the State would expend more money on the medical staff and in encouraging the more scientific of the officers to engage in research, in course of time an ample reward would be gained. In New South Wales the proportion of medical staff to patients is about 1 to 300 in the ordinary receiving hospitals, and in the more chronic hospitals 1 to 400. In Callan Park, however, the proportion is 1 to 200, there being five medical men on the staff. This largely increased staff has been appointed to

enable more advanced and careful work to be undertaken, and ample facilities in the shape of clinical rooms, laboratories, etc., have been provided. It is much to be desired that this be imitated in all other hospitals which admit a sufficient number of acute cases to supply enough material for the work.

Medical superintendent.—With the medical superintendent the conditions of the hospital administration are such that it is difficult for him to detach himself from the general administration and take an active part in the scientific or even in the clinical work. This is much to be deplored, as it is easy for the medical staff to fall into routine habits unless they have before them the example of a superintendent who is equally enthusiastic in the details of medical work as they are. Nothing is more certain than that a junior staff will be moulded by the senior officers, and that the best results in raising the hospitals to a high level in the medical and scientific world can only be obtained where the medical head is able to give sufficient time to the direction and encouragement of his medical staff. It is, of course, necessary for the medical superintendent to be in touch with the routine work of the institution on both its lay and medical sides, but if a suitable business assistant is provided it should be possible for him to relieve himself of all lay routine, and make it necessary only that he should be the official arbiter in all questions which may be referred to him without requiring to carry out detailed lay work. To attain this the lay assistant should be given a certain independence of position, and should be a somewhat superior officer to the general secretary or steward usually appointed with a title somewhat defining the increased dignity of the office. No doubt the position is a difficult one to fill properly, as where both men are energetic there is risk of having two officers—one medical and the other lay—jealous of each other's privileges, but if the medical superintendent is tactful and sufficiently anxious to secure time to devote himself to the medical aspect of his work, no serious difficulty should arise. It is only by this means or some similar arrangement that the hospitals for the insane can be raised and kept up to a proper level in the line of medical progress and the medical staff relieved from the opprobrium of being denoted mere institutional managers. At the same time there can be no relaxing of the rule that the medical superintendent is the supreme head.

Pathologist.—In New South Wales and Victoria a special pathologist is provided. The Victorian appointment, however, is hardly made on the lines best calculated to obtain scientific results of value. The salary provided is too small to expect a man of high attainments to devote himself entirely to the work, and as it is directed that he is to perform *post-mortem* examinations in all deaths in the hospitals, his time must be too much occupied by this duty to permit him to engage in serious research. In New South Wales the pathologist is given a more independent position, and the salary is sufficient to place him on a level with the medical staff of the hospitals. His time is wholly devoted to research work, and though he is not expected to perform *post-mortem* examinations which are left to the regular medical staff of the institutions, he is at liberty to go to all the hospitals and obtain material. He has a central laboratory situated in the University by the courtesy of the University authorities, and in this his main work is carried on, but he is specially attached to Callan Park, where he has a definite standing in the laboratory and in the wards, and has the assistance of the medical staff there and of the clinical clerks and such of the medical officers in the hospitals as are engaged in research. The laboratory is open to any of the medical staff who desire the opportunity of scientific work, and the privilege of doing so has been availed of to a considerable extent.

Nursing staff.—The nursing staff in most of the States is now trained, the nurses and attendants having to attend courses of lectures and pass examinations during their first two or three years of service. The training was instituted as far back as 1837 in New South Wales, and in 1894 in Victoria, South Australia following in 1901, and its effect in the improvement in the nursing in the hospitals is beyond question. Each State has its own syllabus and its own arrangement of the details of training, but the essential features are similar in all. The course extends over two years, but in New South Wales it has recently been increased to three years so that it may accord with that followed in general hospitals. On successfully passing the final examination a certificate of efficiency is awarded.

No pensions are given to the retiring staff, although undoubtedly this would go far towards obtaining a better class of applicant and diminishing the number of changes in the staff which at present annually occur.

The hours of duty and leave of absence given to the staff in the various states vary according to local influences, and are generally considerably more liberal than those of nurses in general hospitals. In some cases a proportion of the attendants in the male wards go to work with the patients in the grounds, but in others the indoor staff is completely separated from the outdoor, so that an attendant's duty is entirely confined to indoor nursing. This system is undoubtedly that most likely to improve the nursing of the insane. It cannot be expected that attendants whose duties consist partly in nursing and partly in outdoor work can acquire such nicety of manner as will justify their challenging a comparison with nurses.

Incipient cases and reception houses.—In this review of the conditions in hospitals for the insane in Australia, the more recent attempts to deal with incipient cases have been but lightly touched on. This, however, ranks among the most urgent and important questions now before the minds of alienists, and is being seriously taken up by at least two of the States. In New South Wales Dr. Manning many years ago introduced the principle of the reception house for observation and treatment of those early cases, and most of the States have included a provision in their Lunacy Acts for similar institutions. These reception houses, though they have done admirable work in this direction, cannot properly cope with the incipient insane, and are not in a position to settle the whole question. Their functions are to act as a filter to prevent the admission to the hospitals of alcoholic patients and of those with *delirium tremens*, and to offer an opportunity of deciding as to the insanity of transient and doubtful cases and to assist in the classification of patients in transit to the hospitals. They should not properly take the place of an acute hospital in which cases are treated to recovery, except those of transitory insanity or of slight insanity which do not require certification or long detention. The reception houses must necessarily pass through their wards a great variety of forms of insanity, both curable and incurable, and it is therefore impossible to ensure such a classification in them as would give the acute cases the separation from other patients which is necessary for their proper treatment. The number of alcoholics to be dealt with alone forms a formidable contingent, and if the reception house is used as an acute hospital it should have separate wards for the

alcoholic as distinct from the insane patients. It is in every way better, therefore, to limit the reception house to its proper place as an institution for observation, and for the distribution of patients to the hospitals for which they are most suited, and to deal with the acute insane in another manner. Several alternative proposals are open for selection as to the best method of carrying this out.

(1) In most countries the hospitals for the insane themselves are making provision for acute cases by adding new admission wards as acute hospitals, separated as far as possible from the general hospital, so that they may form a quite distinct institution. By this means a mental hospital is created within the grounds of the institution itself.

(2) In some instances, *e.g.*, at Glasgow in Scotland, Albany in New York, and in some of the German towns, these early cases are treated as uncertified patients in buildings attached to the general hospitals or to the poor-houses, and not to the hospitals for the insane.

(3) A mental hospital, such as was advocated by the Commission presided over by Dr. Brudenell Carter, and which the magnificent bequest of Dr. Maudesley has now encouraged the County Council to erect in London.

In Australia, New South Wales and Victoria have each progressed along one or other of these paths. In Victoria a reception house has been established, which undertakes, in addition to the function of a reception house proper, some part of the early treatment of insanity, and a mental hospital is being opened to which the curable cases from the metropolis are to be sent. As the patients admitted to a mental hospital, however, must be certified, it is to all intents and purposes a hospital for the insane, limited in its admissions to acute and curable cases. It differs from the regular institutions, therefore, only by dealing with curable cases, by its situation, its separation from the chronic insane, and by the constitution of the staff. The necessity for certification, it is feared, will hamper its action in diminishing the stigma of insanity or in persuading the patients to place themselves early under treatment. In New South Wales, on the other hand, a different route has been followed. A mental hospital has been, or is being, added to each of the hospitals for the insane in place of being erected in a central situation. Though within the grounds of the hospitals it will

exist distinct from the general building, and under a separate nursing staff, and in it patients may be treated from admission to discharge without entering the general wards. The patients sent to these will have all the advantages of a separate mental hospital, but will not be able to avoid the disadvantage of having been certified and of being known as having been in a hospital for the insane. These mental wards, therefore, will not be able to prevent the stigma of insanity, although they should be of great value in providing facilities for early treatment, and thus increase the recovery-rate. The staff consists of the regular resident staff of the hospital, and has not associated with it visiting honorary medical officers. In addition to this, however, provision has been made for uncertified patients. It was hoped that the larger general hospitals, following the example of other countries, would open a mental ward, so that suitable cases could be treated without requiring to be certified and sent to a hospital for the insane. So far, difficulties have prevented this being realised, but it is still hoped that in the future it will be carried out. In the meantime a small ward has been erected on ground adjacent to the reception house in Sydney, in which uncertified male patients are being treated. The medical staff consists of honorary visiting physicians, and the nursing staff of nurses in the day time and an attendant at night, and the conditions are as similar to those of a general hospital as possible.

All classes of the acute insane are thus provided for, the early, the slighter, and the borderland cases in the ward for uncertified patients, and those whose disease requires the restraint and surroundings of an hospital for the insane in the mental hospital attached to the institution. In these cases the patients treated are of the curable class; those suffering from incurable forms being sent to the general wards of the hospitals, to which also are transferred the cases which have not recovered in the acute hospital. By appointing an honorary medical staff selected from the ranks of practitioners in the city, it is hoped that certain advantages will accrue, not only to the institution but to the profession at large. The experiments in these States, if experiments they are, are at any rate a sign of continued interest in seeking a solution of the problem of dealing with the constantly increasing numbers

of insane patients in the community, and will doubtless also help to a definite result in the near future.

It should also be noted that in Western Australia a mental ward is already in existence in connection with the Perth Hospital, and that it is proposed to extend this system to other hospitals in the country.

The Legal Duties and Responsibilities of the Medical Profession in Matters of Lunacy. ⁽¹⁾ By T. PROUT WEBB, K.C., Master in Lunacy, Victoria.

THE object of this paper is an endeavour to suggest for the consideration of the medical profession certain aspects of their legal duties and responsibilities in matters of lunacy.

It may be well at the outset to state definitely that the medical practitioner has in cases of insanity no greater privilege or protection than is extended to the ordinary layman, except such as are expressly conferred upon him by the Statute Law. Yet how often do we find that he overlooks this, and with the single eye to the relief or cure of his patients assumes or directs the custody or control of a person mentally afflicted, and regards him as an individual bereft of his ordinary rights and privileges. No doubt he acts with a large heart and with the best of intentions, and does that which humanely and medically is, in his opinion, the best for the patient, and accepts, perhaps, without thinking of it, the responsibilities of the situation with never a conception of the risks he runs, or of the possibility of having to defend an action for assault or false imprisonment. Yet it is a matter worth pausing to consider not only from his individual standpoint, but as one intimately affecting the larger questions of the treatment of the actually insane, or of those whose condition is on the border-line of insanity. To rightly appreciate the importance of the consideration, I venture to put before you a statement of the matter as it presents itself to the legal mind.

Accepting the fact that an individual is suffering from some form of mental disease, one of the first and most important considerations for the medical practitioner who is called in is

to decide what is to be done with the patient, and, particularly, can he be safely and properly treated without certification.

Primarily the functions of the medical adviser are by advice and treatment, to attempt the relief or cure of the malady ; incidentally (and I might almost say in nearly all cases of mental disease, "necessarily") this may involve some interference with the exercise by the patient of his rights of liberty and the free exercise of his own will. Ordinarily the patient is free to adopt or reject the advice ; if he is sufficiently of sound mind he may voluntarily place himself under the control of his medical attendant who would then be justified in interfering with his rights to the extent to which it would be reasonably necessary for the purposes of treatment, but not further. Persons standing in *loco parentis* to the patient, too, may safely commit him to the control of the medical practitioner to the like extent ; but in all other cases, such as those in which near relatives or friends act, the medical practitioner may not protect himself under their authorisation. Where from the very nature of the disease, such as lunacy, the patient is either quite incapable of expressing his voluntary desire for treatment and of surrendering his free will, and where as in most cases he is resistive to it, the physician making control part of his treatment has to bear the responsibility of so dealing with him, unless he acts strictly within the prescribed law.

The position may be regarded from three points of view :

- (1) The legal, which cares only for the due and proper care and protection of the person of the patient and of his estate, and provides for the well-being and requirements of society.
- (2) The medical, which views the case from a remedial stand-point only, necessarily including the care of the person.
- (3) The sentimental, which regards only the feelings and susceptibilities of the patient's family, caring only to a minor degree for the personal treatment of the patient, and often entirely disregarding his advantage or best interests.

(1) *The Legal Position.*

This regards primarily the inviolability of the liberty of the individual, and secondarily the protection of his interests.

Except in infancy, under the age of fourteen years, where the personal liberty of the individual is entrusted by law to his

parents or guardian, every person of sound mind has a natural right to his liberty and to the unrestricted enjoyment of his freedom of will and self control, and by the common law none may, as a general rule, interfere with it. This natural right is of course subordinated to the general welfare of the community, of which the individual is only a unit, and is interfered with, checked and controlled by the State in many directions; not only is this done in cases where the individual voluntarily provokes action by committing a breach of the law but in cases in which he is an involuntary victim, as where he contracts a dangerous infectious disease such as smallpox. Lunacy is another such condition in which the law controls the individual for his own protection and for the welfare of society.

This interference with his natural rights may be effected directly, in the manner prescribed by the Lunacy Acts, or may be justified to a limited degree under the common law.

The Statute law prescribes certification as an absolute and indispensable preliminary. There is no authority at common law for one or two men, be they medical practitioners or not, to say or to certify that another is a lunatic and so justify taking him and depriving him of his liberty unless he is in fact insane. Every person, whether a medical practitioner or not, may justify control exercised by or directed by him in cases of actual insanity or *delirium tremens* by showing that such control was reasonably necessary, either to cure the individual or to restrain him from doing mischief to himself or others; thus far he may go, but no further. Except as provided by Statute law the medical practitioner, no matter how expert he may be in diagnosing mental conditions, has no recognition different from or superior to the ordinary layman.

Such are the very limited restrictions of the common law which, in cases only of "actual" insanity, narrow the right of any person to interfere with the liberty of another, and similar limitations will be found in the Statute law.

The Lunacy Acts have, however, enlarged the field of control by giving the right to the State, but to no one else, to actively interfere with the liberty of the individual in certain cases where the insanity is not actual and manifest, but is incipient or suspected only.

When a person is only "deemed to be insane" he may, under certain conditions, be apprehended, that is, when he is

without sufficient means of support, or when he is wandering at large, or when he is discovered under circumstances that denote a purpose of committing some offence against the law. In other cases, too, when a person "deemed to be insane" is not under proper care or control, or is cruelly treated or neglected by any person having or assuming the care or charge of him, he may be apprehended if it appear to a justice after a personal visit, examination and inquiry, or upon the report of a medical practitioner, that he is insane. In such case, if a medical practitioner subsequently certifies that he is only apparently insane, but that the symptoms are not sufficiently marked to enable him to certify that he is actually insane, he may be deprived of his liberty and sent to a receiving house for treatment and his condition thereby ascertained.

In all other cases, however, as well under the Statute as the common law, the fact of "actual" insanity must be first established before any interference with the liberty of the person can be justified: and when we find a condition of less than actual insanity there is no legal justification whatever for the interference by any individual (medical practitioner or not) with the liberty of another, or for controlling him in any way for treatment without his consent; and the advocacy by some alienists for some sanction for such an interference, however necessary or advisable it may be for treatment, is too dangerous an inroad with the principles of the law to be lightly considered, and too open to abuse in its practical application to justify its adoption without every possible restriction and safeguard being prescribed. As I have mentioned, the Legislature has moved with a very cautious step in this direction, and has kept the right to use it in its own hands, and has wisely confined it to admission to institutions under its own supervision and departmental control and responsibility.

The legal position that I have endeavoured to make clear has frequently been unappreciated by medical practitioners, and in many so-called border-line cases they have, with the best intentions, ignored the position and undertaken the attendant risks. The patient, if he recovers, either from his thankfulness for his restoration to health, or supineness, may disregard the breach of the law and the technical wrong that has been done to him, while, if he does not recover, his subsequent certification and admission to a hospital or licensed house may over-

shadow his previous position, and to some extent justify the acts of the medical practitioner. Regarded from a legal standpoint this position should certainly not, in the interests of the medical profession, be tolerated.

The fact of an insane condition sufficient to justify control or interference should, by some means or other, always be clearly established and recorded before any control or interference whatever is sanctioned by the law.

Certification is the method adopted by the law to establish the fact of actual or presumptive insanity, and this should be insisted on for the protection of the individual and the justification of the person responsible for the control or interference.

Certification in itself merely means the establishment by law of what is deemed sufficient *prima facie* evidence of the condition of insanity sufficient to justify control. It does not in itself establish beyond all question the fact or the condition of insanity, and unless it is acted upon and taken as a basis for admission to an institution it is ineffective.

A certificate may be given by any medical practitioner, whether he has had any training or experience in mental disorders or not, so long as he acts *bonâ fide* and with reasonable care, according to the average medical knowledge in such matters. Reasonable care means considerable care, and want of reasonable care means negligence. Reasonable care imports a due and proper personal examination of the individual, and the making of such inquiries as are necessary, and which a medical man ought, under such circumstances, to make. The opinion that the person is insane may be formed upon the personal examination alone, and further inquiries may not be necessary—the medical practitioner is not bound to make them, if he is satisfied on the personal examination. If the facts observed by himself are not sufficient for him to form his opinion, then he is bound to make further inquiry, but he may not form his opinion only on facts communicated to him by others.

He may form his opinion upon the statements made by the person under examination—a certificate based “upon conversations I have had this day with her” has been held sufficient in law—without the actual statements being recorded on the certificate; but, in my opinion, this is an extreme case, and when the purpose and object of the certificate is considered, I

think the medical practitioner should in all cases be more precise and particular in complying with the statutory requirements, and that such detailed facts should be set out as upon their face would indicate that the opinion was well formed.

The prescribed form of certificate merely gives expression to the "opinion" of the medical practitioner, and that may be disputed. In itself it is inconclusive, and can cast no stigma upon the individual, that stigma which is so much relied on as a thing to be avoided, and which, in fact, only arises, if at all, when a certificate is acted upon by the admission of the patient into a hospital for the insane. The certificate itself—by itself—is perfectly harmless, until it is acted upon by some person who, relying upon it, prefers a request in writing for the admission of the patient to a hospital for the insane or a licensed house. It is the action of the relative or friend who makes the request and accepts the responsibility that gives any life or force to the certificate, and makes it sufficient *primâ facie* evidence of the insanity to justify the superintendent to admit and control the patient.

The law does not prescribe that every insane person shall be certified; many of the afflicted are cared for, treated, and die without certificates. An insane person may be treated and cared for in his own home with his family or in the house of a friend who derives no profits from it, otherwise he must be certified.

The certificate may be defective or bad in law, but that does not destroy the common law right to restrain the individual if, as a fact, he is actually insane.

It is a confusion of ideas to speak of certification as in itself in any way objectionable; it is merely prescribed as the simplest and safest method of recording the *primâ facie* evidence on a medical opinion that the person is insane and a proper subject for detention and treatment. It is the admission into a public hospital that, being public, may stamp the patient with the mark of insanity.

Now in order to elude this stamp, where the condition of insanity is undeveloped and either minatory or uncertain, and at the same time sufficient to justify interference when control is necessary, some course of action is desirable.

On the one hand we have the medical view that for remedial purposes the earlier the treatment the better the curative results;

on the other hand we have the jealous guardianship of the law of the rights of the individual. There is also to be taken into consideration the social effect upon him and his family. To weld these diverse considerations into a system which will provide for the maximum benefit to the individual and the minimum of interference with his rights is no doubt a vexatious and difficult task. Many schemes have been devised, but they all turn ultimately on the pivot of the protection of the individual, and the medical and social sides of the question are subordinated. I have referred to treatment in the individual's own home or in that of a friend as permissible without certificates, but the great majority of cases require treatment elsewhere, and following the safe lines sanctioned in cases of this class by the Lunacy Acts, it appears to me that they should only be dealt with under some prescribed method of recording the condition, and in some prescribed place under the supervision of responsible authority.

The secondary position from which the legal position regards certification is the care, preservation, and administration of the estate of the insane person.

It has been the prerogative of the King to preserve and administer the estates of idiots and lunatics, and is exercisable now through his Courts of Justice, where action is sought in cases of all such persons whether patients in a hospital for insane or licensed house or not.

In the case of patients its exercise is by statute deputed to the Master-in-Lunacy, who is required, as a matter of duty, to undertake the personal care, protection, and management or supervision of the management of the estates of all lunatics and lunatic patients, and to take possession and care of, collect, preserve, and administer the property and estates of all lunatic patients.

Here it may be noticed that the operation of this interference is limited to those cases in which the fact of actual lunacy is established, or in which the patient is in a receiving house and does not arise under any less modifications of the mental condition. In cases before the Courts the fact is made certain by inquisition; in cases under the Master the fact has been established by the certification of the patient, or by certificates in other cases when the lunatic is neither a patient nor under the orders of the Court. In incipient or border-line cases

the interference does not exist, nor does it exist where the lunatic is treated in his own home. In none of these cases is the fact of insanity either ascertained or recorded.

In order that the interference of the Master in Lunacy in the regulation and disposition of estates may be clearly and fully understood it may be thus stated.

There is a popular delusion that upon certification and admission to a hospital for the insane or a licensed house, the Master takes the estate, sells it, and applies the proceeds to the maintenance of the patient, and presumably confiscates the balance for the purposes of the State.

What actually occurs in practice is this :

If the patient is in a receiving house, or in a hospital or licensed house, no active steps are taken pending the ascertainment of the condition of the patient, his prospects of recovery and the desirability, if any, for protection or prompt action. Should it be made apparent that the Master must act, inquiry is made and the protection of the estate and the interests of all parties concerned in it (the patient, his family and creditors) are carefully conserved. If it appears that his affairs are in the hands of a capable administrator, in whom the patient had reposed confidence, that situation is continued unchanged, subject to supervision by the Master, so long as he considers the patient's interests are in no danger. If his affairs require investigation, that is conducted, and when placed in a condition of safety and on a proper basis the Master may allow the wife or son to manage the estate subject to supervision. If, however, an active control and management requires to be undertaken, the Master himself takes possession and actively administers. He then acts as and for the patient, protecting and providing for the family of the lunatic or others heretofore dependent on him, applying such sum as is reasonable under all the circumstances of the case towards his maintenance, and holding the balance in trust for the lunatic, or if he do not recover, for his next of kin.

The Master is but a trustee, but with somewhat wider personal obligations to protect and provide for the wife and children of the patient than an ordinary trustee.

One of the objections to certification is that it vests in the Master the control and administration of the estate of the patient, and this objection is not always absent even from the mind of

the medical attendant, and is in some cases a deterrent to the friends and relatives, but in every case wherein it has been apparent a personal explanation has removed it, and it has been welcomed as a beneficent provision. On the recovery of the patient the confusion of his affairs, brought about by his actions while of unsound mind, has been removed, complications straightened out, and he returns to find everything smoothed for him, no difficulties to worry him, and nothing from a business point of view to disturb his convalescence.

The second aspect in which the patient is considered is the medical one of treatment.

This, as I have pointed out, connotes detention and control or the interference with the liberty and free exercise of the will of the individual, and I have stated the limitations under which this may be lawfully exercised. Under these conditions the medical adviser, acting *bonâ fide* and with that skill and reasonable care that may be expected from the average medical practitioner, is protected.

When a medical practitioner is duly registered the inference is that he is competent and his treatment correct until the contrary is shown.

In the specialist, however, a higher standard of care and competency is required.

But in every case the use of restraint greater in degree, more severe in character, or longer in duration than is necessary for the security and care of the lunatic is an offence at common law and punishable by indictment.

Where a patient is certified and passes under the control of the superintendent of a receiving house or hospital for the insane, the treatment by the general medical practitioner is at an end. When, however, the patient is admitted to a licensed house, he may continue to influence treatment as a consultant, but even then the treatment is liable to be affected by the patient's ability to pay for it. Medical practitioners are not philanthropists by choice, although in many cases they are compelled to accept that situation, and perform services and effect cures without receiving their just dues. Treatment in a licensed house is an expensive matter, and many who can afford the expenditure for a limited period in the hopes of a speedy cure are unable to meet it for a protracted period. Medical practitioners do not, as a rule, inquire into the means

and ability of a patient to pay, but attend in the reasonable expectation of their fees being met, being more professionally interested in the medical aspects of the case and the hope of being able to relieve the patient. In licensed house cases where the expenses are being defrayed exclusively out of the patient's own estate, it is therefore customary where it is apparent to the Master-in-Lunacy that the expenditure on medical attendance (other than that provided by the Act) cannot be justified, to give the consultant notice of it, leaving him to elect whether he will continue to attend with the possible prospect of receiving no fees for it.

In cases where the mental condition is not so advanced as to require certification, the medical treatment and the relations as between physician and patient in ordinary cases holds good.

The question of certification is one of importance, personally, to the medical practitioner, inasmuch as it affects his continuation of particular treatment, but so also does the condition of the patient's means and the opinion of the patient or his relatives—who may discontinue his services—and therefore this interference may not be regarded as of so much importance as in itself to render certification objectionable. But so long as the condition is less certifiable the medical attendant should have every facility for pursuing his treatment compatible with a scrupulous protection of the rights of the individual.

How this should be effected is, as I have said, a difficult problem, and one which, though cognate to the subject of this paper, would take too long to discuss.

In considering the third aspect in which the condition of lunacy may be regarded, the "sentimental" one, the mere contemplation of its attributes indicates how inferior in importance it is to either the legal or the medical.

It is directly in conflict with the legal, and is only slightly in harmony with the medical, so far as its influence affects the sensitiveness of the patient; otherwise it is merely a selfish consideration founded upon ignorance. It is the last trace of the ancient and unenlightened aspect in which lunacy was regarded a hundred years ago, when the disease was a thing to be avoided, the sufferer shut away from the eyes of men, and he and his ailment covered with the secrecy of a cell. It has no sympathy with modern thought and research, which regards lunacy as more than a mental disturbance, more than a

mysterious visitation, and recognises it as much a disease and curable as any fever or smallpox. To quote Dr. Ford Robertson :

"The modern theory is that insanity depends upon the action of various poisons upon the nerve cells of the brain that subserve the association or intellectual functions, and those are apparent in inherent predisposition or in toxic action. The first is the most difficult to deal with ; in the latter arrest or prevention is possible more easily. Some toxins are introduced from without, as, for example, alcohol ; others are generated within, due to bad hygiene, bad alimentation, influenza, etc. When we understand the nature, sources, and causes of the formation of the various toxins and their mode of elimination, most forms of insanity will be curable."

If this statement could be widely disseminated and appreciated the old bogey, the old slur or stigma, would no longer hamper the action of the medical practitioner.

People do not shun the publicity of typhoid, smallpox, or influenza—diseases as common as lunacy, and infinitely more dangerous to the health of the community. Relatives offer no objection to notification (much the same as certification), nor to the removal of the patient to a contagious diseases hospital or to a sanatorium for consumptives.

If they knew more of the true nature and causes of the disease of insanity it would not be so repellent, and the treatment of the ailment in its earlier stages would be greatly facilitated. Its advent would be earlier recognised, its prevention effected, if only the old prejudices, the old ignorance with its accompanying desire to secrete the patient and hide from the knowledge of the world the fact that he has contracted the disease, were destroyed.

The sentimental aspect of insanity should be disregarded and crushed out as a mischievous factor, and with the radiant light of medical research and treatment cast upon the ailment, showing its true character, the community would be educated to recognise the disease without the repugnance it now does, and to feel confidence in the medical practitioner's methods, aided by a wise and carefully guarded legal protection.

(¹) Read at the meeting of the Australasian Medical Congress, held in Melbourne, October, 1908.

On the Treatment of the Insane in the great General Hospitals.⁽¹⁾ By A. R. URQUHART, M.D., F.R.C.P.E.

THIS afternoon we have a wide field to traverse, and it is necessary, therefore, to select certain notable features for discussion, to omit much that might be said. I pray you excuse me if this discourse proves somewhat curt and dogmatic in dealing with the placement of the insane and the present position of psychiatry. Both are really in a state of flux, and we can only arrive at conclusions as provisional findings, to the best of our knowledge and belief, still requiring investigation and confirmation. That, of course, applies to the whole range of medicine as a science and as an art.

The study of the nervous system, normal and abnormal, has advanced at a vast rate in our own time, the literature of neurology and psychiatry is overwhelming, the work already accomplished is daily increasing in volume and energy. It is natural that the question should arise—Have we exhausted all the methods of investigation, have we utilised all the material for that investigation? I think not. I shall have to suggest, to urge, that Dundee should lead the way in Scotland in the treatment of the insane in a great general hospital. But, as a preliminary to treatment, and as concurrent with it, medical observation and research must be regarded as the fundamental necessity, aided and developed by laboratory work in the College. For insanity is an affair of medicine, whatever relations it may have with general sociology.

One does not apply the canons of a severe criticism to an obituary notice or an after-dinner speech; but it seemed to me that, when *The Dundee Advertiser* gave it to the expectant world that this would be the first city in the country to place the treatment of insanity on a rational and scientific basis, the speaker would be the first to repudiate any reflection on those who have already given their lives to the work; and specially that it was time to fence the tables—first, exactly to determine what should be done, primarily in the interests of those labouring under mental disorder, and secondarily, in the interests of the public at large. The rational and scientific basis has been founded and fixed, but the structure is still

incomplete. A definite omission in our methods has become more and more apparent to those who have laboured on that basis and are urgent to see it fortified.

This is, in short, the specialist's appeal to the general physician. A man does not become insane in an asylum. The asylum is the *dernier resort*; the hospital for the insane is a specialised institution, receiving the failures of the general physician, and stands, subject to keen criticism, as a definite and noteworthy part of our civilisation. It is subject to human limitations, and has to record its failures just as the general hospital has to do.

Let us see how the medical results stand on comparing the two. In their wisdom the registrars of the Dundee Royal Infirmary return those "cured and relieved" in one sum. I, personally, find the word *cured* unsuitable, and prefer *recovered*. Let that pass; the result was that I could not discriminate between those restored to health and those improved in health, in order to compare the medical results of the local infirmary with the local asylum. I found, however, that the discrimination is made in the Report of the Royal Edinburgh Infirmary, and taking at random that for 1903 we find the following statement:

MEDICAL RESULTS.

	<i>Edinburgh Royal Infirmary.</i>		<i>Perth Royal Asylum.</i>	
	General.	Nervous.	Certified insane	
Total Cases	4082	873	.	982
	Of whom a percentage of—			
Recovered	33·7	23·0	.	31·8
Unrecovered	55·5	69·3	.	51·3
Died	10·7	7·5	.	16·7

It will be apparent that these figures are notably similar in results, nor is this surprising, as insanity is just as much a bodily disease as those recorded in general hospitals. It has, of course, its mental side, by the consideration of which we have been too much distracted; but then you are familiar with the mental concomitants of such diseases as phthisis or cardiac maladies, the undue hopefulness and the undue depression of which have long been recognised. Or, turning to a succinct account of experience in Murray's Asylum, we find that of

every ten persons admitted, the probability is that three will be discharged recovered, that four will be discharged unrecovered, that two will die during residence, and that one will remain under care indefinitely. The total recoveries⁽²⁾ recorded stand at 37·94 *per cent.*, while the permanent recoveries are only 17·18 *per cent.*; for in essence insanity is very similar to rheumatism, one attack does not confer immunity, but rather predisposes to a relapse, and it is to the improvement of this recovery-rate and the prevention of relapse that energies must be bent, whether we have to deal with insanity or rheumatism. There is no room for contentment while these diseases of obscure causation are permitted to flourish. Treatment on general principles is very well so far as it goes, but we cannot rest befogged with ignorance of the underlying determining pathology of disease. Conceive how the matter would stand if those unrecovered patients discharged from the Infirmary had to be kept for life in the institutional extensions so rendered inevitable! Imagination boggles at it. If only one out of ten were to remain resident indefinitely, and thus increase the death-rate and depress the recovery-rate, there would be more than one to declare for a rational and scientific basis of treatment. I cannot do better than quote from the Report of the Queen's Square Hospital for Paralysed and Epileptic, the medical and surgical staff of which is selected from the most distinguished ranks of the profession. In 1906, they said: "Diseases of the nervous system are not the same in their results as diseases of other systems of the body. The nervous system is of a far finer design and a more delicate structure altogether than the other corporeal systems. A lesion which will produce only a temporary effect in one of the latter may, in the nervous system, produce irreparable damage." I concur, but have better hopes of the future than this apology for a strictly limited medical success.

Let us now pass in rapid review what has been done in the placement of the insane, for an historical *resumé* of this kind leads us directly through philanthropic work to the present position and the proposals of to-day.

In the era of enlightenment which followed upon the French Revolution, when Pinel marked an epoch by removing chains and fetters from the insane, the public conscience was stirred, and men set about the care of diseased and disordered persons

with a charity and benevolence which yet redounds to their credit. Dundee has an honourable record in this respect. When we read of the horrors of the mad-houses which engaged the attention of Parliament, and the systematic neglect of the mentally afflicted a century ago, we must also recall the open-handed relief and the commendable motives which prompted it. Kindliness and forbearance were the watch-words of those who designed and supported the Royal Asylums of Scotland. These continue imperative and operative, but the nineteenth century proved wonderful in many inventions. As men knew better, they did better. The improvement in the care and treatment of the insane has been a reflex of the current beliefs and the social conditions.

I throw on the screen a plan of the first Dundee Royal Asylum. You will observe that it was fashioned on the cellular system of the old religious houses. It is rigidly symmetrical, consists mainly of small rooms grouped round courtyards, much the same as were inhabited by cloistered monks. The leading ideas were safety, segregation and social classification. Nothing could be more unlike the plans of to-day. Similarly, Murray's Royal Asylum was designed as a place of strength and adequate power of detention, under the ægis of the law, which naturally and properly is a laggard in our affairs. No doubt the law must determine questions of responsibility, of segregation and so on, but these questions are secondary in importance. They issue consequent upon declared insanity and the conduct of the insane person. They are not fundamental but accidental. I show this plan to indicate what has been done to modernise the institution in opening large airy rooms, in providing dormitories for continuous observation and care, in adding hospital accommodation for recent and acute cases. This last was, and remains, an important development of asylums as Hospital-Homes—as hospitals for active medical treatment, as homes for the chronic class in which medical work is comparatively unnecessary. Dr. Clouston adapted certain separate buildings as hospitals at the Royal Edinburgh Asylum, and that first step was followed at Murray's Royal Asylum in 1888 by the erection of buildings designed as hospitals. Shortly afterwards the Montrose Royal Asylum provided a separate hospital, upon the plan of which many others have been modelled. I do not cast any reflection upon those who formerly were content with "sick-rooms," and still adhere

to that method, but we shall see that as medical ideals become more impressive, so the hospital ward or sick-room has become more strongly differentiated and more definitely appropriated to the treatment of acute and enfeebled cases. Still further, there is a tendency to separate the hospital from the infirmary, to reserve the one for the acute and the other for the chronic cases. I insist that early treatment should be hospital treatment after the best model, that the old and out-worn cases of whom we now receive so many, are also appropriate to special medical care, and plead that an asylum should contain all kinds of patients, not by any means under one roof, but certainly under one central domestic authority. Recurrent cases, accidental cases, intercurrent cases may require removal from the buildings appropriate for the chronic insane at any time, and conversely a re-transference to those buildings. I have heard that the patients themselves differentiate between the hospital and the asylum.

I pass by the West Green Asylum, a type which is as much out-of-date and as discredited as those older institutions, but we might glance at the best London could do a quarter of a century ago. The general plan of the London County Asylum, Claybury, shows a disposition of the various parts of a large institution round the administrative buildings, planned to receive the maximum of air and light. These miles of communicating corridors afford access in all directions for some 3,000 persons resident. The buildings for sick and acute cases occupy a central position on the south front. Some idea of this vast construction may be gained by a view of the east front; but the next slide is more important on this occasion, as it shows the Pathological Laboratory, which is under the superintendence of Dr. Mott, whose work is familiar wherever insanity is the subject of serious study. The London County Council were convinced that pathological material would yield notable results if properly studied, and the erection of this laboratory has been justified in scientific experience.

The plan of Canehill shows a similar design to that of Claybury; while that of St. Albans, which is of more moderate size, follows the same principles.

We may now glance at the special hospitals which have been added to Scottish asylums of late years. The first was that at Montrose, a separate building specially designed for the pur-

pose. There is a considerable proportion of single rooms, and a few of them can be cut off for the treatment of infectious diseases, which are sometimes introduced from the general community. The elevation forms a pleasing frontage, and it will be noted that it is open to the south in detached blocks in accordance with modern ideas. The latest of those Scottish Hospitals is that erected at Ayr County Asylum at a very moderate cost. I feel that to some extent it has been sacrificed on the altar of cheapness. The double wards accommodate four lines of beds between the outer walls, which cannot be regarded as desirable in hospital planning. On the other hand, there are ample sun rooms for day space and open-air treatment in bed, which are most valuable adjuncts from the medical point of view.

The Bangour Hospital, recently completed for the Edinburgh District Asylum, shows special features in respect of the Electrical Department, the Research Rooms, and the Lecture Hall, where the nurses are instructed in systematic work. The development of nursing as a science and art has been a gratifying feature of asylum administration for nearly a quarter of a century. Instruction in theory and practice go hand in hand, and the qualifying examination is directed from London on behalf of the Medico-Psychological Association. In this sphere also medical ideals are paramount.

The general plan of Bangour has been adopted from German models. The asylum at Alt Scherbitz long ago convinced me that the crowding of hospital and asylum buildings of considerable height on a limited space could no longer be regarded as desirable. Just as architecture has done all and more than all that was necessary, as we have attained the maximum benefit from farms, from nursing and general principles, we come face to face with new facts in science which open the door to new efforts in prosecution. Distinctively, however, these newer models in planning require illustration before concluding this part of my discourse.

I exhibit the general plan of Annsbach, which shows the tendency to scatter the buildings over the estate, and Kingseat Asylum, built for the Aberdeen Parish Council, demonstrates the modern design still more clearly. I first call your attention to the Central Hospital, where the medical work is concentrated. Round about it are grouped the houses for chronic patients,

administrative buildings, and so on. The central and important fact precisely is the Hospital (122 beds), and the experience gained since the whole institution was opened is entirely favourable. I need not detain you with views of the simple buildings which go to constitute it, but cannot omit the plans of the Woodilee Reception Block and Sanatorium, added to the Lenzie Asylum of the Glasgow Parish Council. These buildings were inexpensive, they are simple, and they are practical. One can hardly show a greater divergence in structure than is here represented as compared with the old Dundee Asylum. This is, in brief, a hospital building of the simplest kind, and it has been in use for some years, during which it has fulfilled all requirements.

We may now pass to a consideration of buildings still more germane to the present purpose. In one way or another, in different centres, it became apparent that the gap between the insane person's home and the asylum should be avoided or bridged over. I first refer to the Hospital Commune of Copenhagen, where some 900 patients are under treatment daily. The building is of a simple form. In the rear are two pavilions, A and B, the former for insane, and the latter for other diseases of the nervous system. Pavilion A is really a reception house for the asylums of Denmark, which are situated at some distance from the capital; but care and treatment are extended to the patients from the time they are received until their immediate future is determined.

Similarly a pavilion has been erected attached to the Albany Hospital, New York State, where great activity has been manifested and notable results have been gained. The plan of the Pavilion is much too complicated in my opinion; but it is in the American manner, and no doubt adapted to the American climate and ideals.

The arrangements in Glasgow are well known, and I need not enter into details, which can best be studied in the annual reports of the physician, Dr. Carswell. I would merely say that the parochial insane are reported to him, are visited by him, and are dealt with by him in a systematic manner. It is unnecessary to remove every patient so afflicted from his home, it is unnecessary to send him to an asylum. The doubtful cases are admitted to the Eastern District Hospital of the Glasgow Parish Council, are there placed under observation,

care and treatment until recovery takes place, or removal is essential. Simplicity is the note of this establishment. There are larger and smaller wards, and six side rooms, giving a total accommodation of fifty beds. I show the entrance to the Mental Wards, which is free from all adornment, also the interior of a ward which could not be less complicated. Finally, I show the medical results, which issue in 44 *per cent.* of recoveries on a total number of 1,077 admissions. No doubt many of these cases are alcoholic, of transient nature; but their maladies are properly treated without legal certification and all that entails.

The result of this consideration of asylum methods is that there has been a decided tendency to simplify structural features, to differentiate the various parts of the buildings, and to concentrate medical treatment in special hospitals. We have also seen that wards for insane patients in general hospitals neither aim at, nor require, specialised arrangements, indeed, the less there is of apparent difference the better. If a patient requires Asylum treatment a general hospital is no place for him—a couple of side rooms for use in emergency is ample provision for such exceptional cases. Therefore, I suggest that two small wards would be sufficient for the requirements of Dundee, if they can be devoted to the purpose. If fifty beds are sufficient for Glasgow with a population of half a million, and sixty beds for Copenhagen with a similar population, thirty beds should be ample for Dundee. The arrangements of the Local Government Board have been generally approved by experience, especially the term of residence, six weeks, extended under special approval on medical certificate. Personally, I would prefer that these wards should contain all cases of disease or disorder of the nervous system. Even the name of these wards is important. In everyday life the appellation of “Psychiatric” or “Neurological Department” would never come into common use. The “mad wards,” or the “asylum wards” must never be permitted, and I venture to indicate that a short and distinctive name might be found in the word *Royal*, if the Royal Infirmary and Royal Asylum Directors happily agree to initiate the undertaking which I recommend to their favourable consideration, and the medical profession send for treatment the suitable cases which come under their observation.

We pass now to a brief consideration of the nature of insanity in the light of scientific research, using the term in its fullest significance. I believe that, as hospitals for the insane have been simplified, in like manner our science will be simplified.

I put aside metaphysics as irrelevant and unnecessary from the medical point of view.

“Myself when young did eagerly frequent
Doctor and Saint, and heard great argument
About it and about ; but evermore
Came out by the same door as in I went.”

For me it is *chose jugée*. Psychology, normal and abnormal, is another affair, progressing on the lines of physiology and pathology. For instance, if we consider the curve of fatigue, we find it illustrative of normal and abnormal conditions. A man runs in excessive proportion to his strength ; at first the effort responds to the demand of the will, the curve ascending until signs of distress are apparent, and the curve somewhat sharply descends. He then gets his second wind and effort again responds, the curve describing a longer and higher ascent, until fatigue supervenes, when the curve falls rather suddenly and deeply in proportion to the exhaustion. Fatigue has become pathological, the urine becomes toxic, and capable of conveying its poisonous properties to other animals. Nor is this all ; the curve for mental fatigue is of the same nature, as Kraepelin has shown by various experiments—there is a similar rise in ability, a slight fall, a longer second rise until fatigue causes the final fall ; while Hodge has shown confirmatory evidence in the nervous cells of the exhausted honey bee. The circumstances are identical in result, and the army and schools of Germany have re-arranged their methods in view of this pregnant observation. It will not do to sandwich hard bodily work between terms of mental effort—the fatigue is progressive through both periods of labour. Thus, in the insanity of over-exertion it is necessary to prescribe rest in bed, to endeavour to break into the vicious circle of undue effort and its toxic sequelæ, that is to say, to adopt ordinary hospital treatment. Of course the time comes when it is more suitable to place the patient in the convalescent home, and to undertake the “after-cure.”

Is there room, then, for a fatalistic, pessimistic argument ?

Heredity and environment are certainly powerful factors in mental degradation. Extremists will even say—no morbid heredity no true insanity, and aver that it is Nature's method for the extinction of the unfit. But the sheet anchor of the profession is the recuperative power of Nature, in spite of inherent defects in the organisation of the patient. The baleful heredity of insanity is manifested in a failure of metabolic processes or somatic defences. Men are not born mad, but like the tuberculous, the gouty and the rheumatic, fail in metabolism or on bacterial invasion. It is a neurotic heredity, inclusive of eccentricity, etc., of all that is meant by the expression, "want of mental balance." One must also include the effects of tubercular and syphilitic and alcoholic parentage. But it will be objected that this opinion has not found its way to universal acceptance, that mental overstrain, sudden or prolonged, is a factor in causation. I do not believe that a normal nervous system can be driven to insanity by such causes, but if I find such a case I cannot doubt that the derangement or the failure of the soma can be demonstrated.

For our present purpose, however, let us suppose that I misread the signs of the times, and that you prefer the mystical origin of madness in sin, or any such theory, then I put it to you that, until science has been exhausted, we are in exceptionally favourable circumstances in Dundee to enable the physicians of the infirmary and the laboratory workers of the college to elucidate the whole matter in cases of incipient mental disorder, in which, indeed, these questions of metabolism and bacterial invasion can be best determined and combated. That is a proposition for which I claim your assent.

Turn to the other maleficent factors of environment, of vice and crime, poverty and disorder—failures in social conditions. These cannot be discussed to-day, but the very mention of them implies their importance; yet we must remember that the results of amelioration of environment are successful beyond expectation, that hygiene, bodily and mental, that eugenics are now subjects of the most serious study. While I have shown that the incidence of heredity is much the same in intensity in urban and rural localities, I have also shown the more evil effects in the insanity of urban life.

These lions in the path roar dreadfully, but not altogether effectively. For instance, out of 145 children whose parents

were both insane, out of that most disastrous class I found 33 *per cent.* alive and sane, 44 *per cent.* insane, and 22 *per cent.* dead. If heredity were absolute in its effects, not even one-third of these children could escape alive and sane.

Take this curve of averages, it does not matter what character you observe, whether bodily or mental, you will find that the maximum number increases rapidly from both ends. The curve may represent stature, then the giants and the dwarfs are represented by numbers that become negligible, while the vast majority are represented round the maximum height of the curve. Exactly the same observation may be made in the scale of ability, and consequently we find that men of average intelligence are represented by the greatest numbers. The decay and ruin and extinction of families are balanced by the rise and progress and distinction of other families. Prepotent blood is quite as strong a factor as decadent blood. Were it not so civilisation would have been extinct as the proverbial dodo, and we, its ultimate heirs, incapable of discussing these questions of racial importance. At least we prefer that our doctors should profess a cheerful optimism in face of death and disaster.

Many are the definitions and classifications of insanity, and I would not lead you on slippery places were it not requisite to indicate the nature of the thing itself. I believe that it is less complicated than its protean manifestations—that it almost always begins with melancholia, sometimes progresses to mania, and tends to end in dementia. Further, that the malaise, insomnia and similar symptoms of the initial stage are almost always accompanied by alimentary disturbance. As it has lately been suggested that the bacterial invasion of tubercle is by the mouth, so I believe it is in respect of mental disorder. Dr. Rayner, who for many years conducted the Psychiatric Out-patient Department in St. Thomas's Hospital, found that the attentions of the dentist were the first need, that recovery often ensued when mouths were rendered aseptic. Similarly we require the services of the surgeon, the gynæcologist, the ophthalmic surgeon—in fact the aid of all the specialists. Insanity of obscure pathology is being cleared up on that method, as we shall see later. Insanity of gross pathology has been fairly well worked out, but in spite of excellent results at the laboratory of the Scottish asylums (to which Dundee, a notable exception,

does not contribute), some of us are less interested in pathological findings than we were, and encourage Dr. Ford Robertson in his studies of life and current disease. That is a feeling which is generally manifested in the ranks of the profession; the evidence of final wreckage is less important to us than the causes which led to the bitter end. It is the honourable, professional endeavour so long expressed in the maxim—*obsta principiis*. It is precisely that movement which brings us together to-day in the hope of prevention or timely intervention. I pray that it may be fulfilled.

I have said that insanity is like rheumatism—one attack does not confer immunity in future. No one lives on a uniform dead-level of efficiency—sometimes he is above himself, sometimes not quite up to the mark. The curve of recurrent or alternating insanity is an exaggeration of this every-day fact—an attack of mania passing to melancholia which may be succeeded by a lucid interval which may be of indefinite duration. Here, again, I discern some specific toxic influence, and look to the discovery of a vaccine or antitoxin which shall combat the recurring attacks. It is in this field that much work is being prosecuted, and here again we call on Dundee to come over and help us.

Assuredly we cannot rest on general principles when we glance at this chart (closely corresponding with the curve for rheumatism), which shows the ages on first attack of those who have been under my care. It is melancholy to note that the greatest damage is done at the age of thirty, just the age at which I fain would have remained. It is tragical to know that the expectation is worst at the earliest ages, just as the gouty young man is most grievously burdened. Can youth and early vigour not be brought into efficiency? I dare not answer in the negative.

I show you a normal cerebral cortex—no doubt it is sufficiently familiar; and again, cells demonstrating the Nissl bodies, which are first of all impaired. The question is whether these delicate structures, once injured, can be restored effectively. That also can best be determined in cases of incipient insanity. Certainly the death of brain-cells is fatal to mental soundness even if bodily improvement occurs. In this particular case of acute delirious mania death ensued after a few days of the disease. It is a most fatal malady—on general principles almost

hopeless. Can that prognosis be improved by experimental research? I believe it may.

You will understand that we are not by any means exempt from the mistake of taking a wrong turning. Some time ago it was commonly found that patients suffering from melancholia showed the indoxyl reaction in their urine to a marked extent. This vice of metabolism was thought to have a special significance, but further research showed that although it was perhaps deleterious, the condition could be cleared up by the administration of a judicious aperient. This was determined by repeated observation, and the tide turned in another direction. I show you the urine of a melancholic person before and after the purgation, which is still too often necessary on the admission of a patient to an asylum. The indoxyl reaction and its resolution is evident.

I shall not detain you with a consideration of that miracle of medicine, the treatment of myxœdema (in itself a complete justification of vivisection), or the efficacy of ovarian tabloids after operative removal of these organs, but pass to an exhibition of the diphtheroid bacilli in general paralysis, and the phenomenon of phagocytosis. Here are facts, however they may be interpreted, which bring insanity into the category of other somatic diseases, such as arterio-sclerosis, which is also of the nature of an intoxication, and eminently qualify the sufferers for admission into the general hospitals. Further, I show you the bacteria of saliva grown from an insane patient whose mouth had been cleared of decayed teeth, in order to compare the culture obtained from the mouth of a healthy person. Similarly I exhibit the bacteria of fæces in insanity as compared with health. These preparations by Dr. L. C. Bruce indicate that a bacterial invasion is in progress. Again I plead for your assistance to determine the facts and search for the remedies.

Lastly, I would desire to show four charts which Dr. L. C. Bruce used in his Morison Lectures on Insanity before the Royal College of Physicians a year ago. My purpose is primarily to impress upon you that the obscure pathology of insanity is gradually giving place to enlightenment, and secondarily to impress upon you that the research in progress is difficult, laborious and determined—yet hopeful. Already it may be stated that a high polymorphonuclear leucocytosis is of good

omen in insanity; I hope and trust that means will be found to stimulate that reaction, and I finally commend this study to your attention.

Dr. Timothy Bright, who published his *Treatise of Melancholia* in 1586, said: "If you will descend into the consideration of the effects of poisons in our nature, as of henbane and such like, by which the mind seemeth greatly to be altered and put quite beside the reasonable use of her ingenerate faculties, which being mastered by convenient remedies it recovereth those gifts whereof it was in danger to suffer wreck before." You must follow out these indications, through a multitude of observers, before you can appreciate the great development of medical thought and belief in these matters. To henbane and such like you must add elusive poisons which are no less deadly and destructive, and are yet in process of revelation, but hardly provided with antidotes. To sum up you must regard insanity as an affair of medicine, and recognise that social conditions impose restrictions on observation which at least Dundee has opportunity of removing. I beg of you not to be diverted or obstructed by the law in your proper office of medicine. The law imposes on you a primary consideration of conduct and the consequences of conduct. Medicine, on the other hand, imposes upon you the recognition and investigation of disease, the endeavour to remedy, or at least assuage, its ravages. This is not a question of law, and I do not discuss it as such. If the directors decide of their charity to play their part, they need not consult with the law—their course is clear; their plain duty is the recovery of the curable, the care of the incurable, and, I would fain add, the after-care of the convalescent.

I have detained you too long with a mere sketch of what one would desire to say on an important issue. If I have persuaded you that insanity ranks with other somatic diseases and disorders; that it is amenable to care and treatment in like measure; that the signs and portents betoken the near advance of improvement in our knowledge and methods; that there is a definite field for cultivation, hitherto almost untouched; if I have persuaded you that a determined, informed and sustained attack upon the enemies, disease and death, is to be made with good hope of brilliant success, then I ask you, members of the Forfarshire Medical Association, to bring the weight of your

authority and influence to bear on the happy solution of these problems, to strengthen and confirm the directors of these Royal Institutions in their deliberations concerning the best course opportunity affords.

If we cannot sing with debonnair Horace—"Exegi monumentum ære perennius," we may at least console ourselves with the wisdom of Montaigne—"For we cannot be obliged beyond what we are able to perform, by reason that the effects and intentions of what we promise are not at all in our power, and that we are indeed masters of nothing but the will, in which by necessity all the rules and the whole duty of mankind is founded and established."

(¹) An address to the Forfarshire Medical Association, on November 12th, 1908.
—(²) This statement includes recoveries which occurred among those convalescent on discharge from asylum care.—(³) The address was illustrated by lantern slides, showing plans of asylums and hospitals, diagrams and statistics, etc.

Note on General Paralysis. By W. JULIUS MICKLE,
M.D., F.R.C.P.

As mentioned in the careful summary by Dr. Wilcox in this Journal, October, 1908, p. 761, Drs. Clarke and Atwood remark that "not a few English writers fail to diagnosticate general paralysis in the absence of euphoria during some stage of the disease, a view we believe to be largely due to Mickle's teaching two decades ago" (*Journal of Mental and Nervous Diseases*, September, 1907).

How my genial critics came to the belief expressed in the passage quoted above I do not know. The view impeached by them is disclaimed by me.

Nevertheless, one's experience teaches that euphoria exists in some form or degree, on some occasion or occasions, in the very great majority of examples of general paralysis, *if and when the whole course of the cases is carefully observed.*

And there are examples in which even the depressed delusions of general paralysis, whether of hypochondriacal or of melancholic type, have a species of exaggerative inflation; gloomy delusions depicting disaster or ruin; delusions, grotesque, monstrous, or as if inflated with misery; lurid in extravagance

of the expression of perdition, physical or mental, temporal or eternal, or both.

Again, euphoric delusions evidence mental deterioration as well as derangement.

The actual facts of clinical observation reflected in the publications of the writer on general paralysis—and *this is the point at issue*—may best be brought out by citing the very words of some of the passages relevant to this particular subject.

So far was I at any time from manifestly exaggerating the rôle of euphoria or asserting its invariable presence at times in every case, or its overwhelming importance, that in the first edition of my book on the subject a form of general paralysis of the insane was described in which a state of dementia predominates throughout the course of the disease (a predominance which, by the way, is compatible with occasional minor or minimal degrees and mild appearances of depressed or of expansive clinical features, or of both, in some examples).

This form, presenting dementia predominantly or solely throughout, was stated by a reviewer to be “not recognised,” this obviously in the sense that the clinical form in question was not recognised by mental physicians, and, by implication, its description due to clinical error on my part.

Nowadays no one disputes the existence of that type of case as far as I know. No one can successfully contest it.

In the second edition—“two decades ago”—of the writer’s book on general paralysis of the insane, *as the very first item* in the fuller discussion of the mental symptoms of the disease, at p. 29, we read as follows:

“I. Dementia in general paralysis, and the form in which dementia predominates, clinically, throughout. . . . Cases without expansive delirium, excitement, or depression, may with convenience be grouped separately, and this without prejudice to the view that clinically the mental basis of general paralysis is essentially a (mental) weakness . . . or a dementia.”

“In a few cases of general paralysis a dementia begins, progresses, and practically includes or conditionates the entire range of mental symptoms throughout the whole course.”

“It is a question whether these are not examples of general paralysis in its most pure and simple form. . . .”

"Mention has already been made of the incipient dementia in the prodromic stage, of the marked dementia in the later stages. . . .

"In the earlier stages the dementia comes on in an insidious manner, but may advance by sudden leaps after apoplectiform seizures."

At that time, and previously, the present writer attempted to describe some varieties of general paralysis of the insane, chiefly on the lines of the morbid anatomy of the disease, in five different groups of cases considered as to—

The time-relations of the symptoms and cerebro-meningeal and other lesions.

The predominating localisations of the lesions; also—

Their pathological type and course.

And in the chapter (pp. 404-414) on "Varieties of General Paralysis," based on cases actually observed both clinically and necroscopically, it is stated as follows (p. 414): "It may be said that the mental differences to which I have referred in the above groups do not mark any essential differences in the cases; that, for example" (*i.e.*, by one assuming a critical attitude), "it may be urged that the grandiose delirium is, in reality, only a manifestation of that *dementia* which on the mental side appears to be of the essence of the affection."

And it was added that differences in the *mental* symptoms of general paralysis, though not essential, are yet of value.

The apparent increase of the simply demented type of general paralysis of late years is, at least, partly factitious, *i.e.*, in so far as dependent on better recognition.

Menstruation in its relationship to Insanity. By SHEILA M. ROSS, M.D., Ch.B., Assistant Medical Officer of Health, Huddersfield; late Assistant Medical Officer, Holloway Sanatorium.

THE following observations are made on the menstrual history for ten years, from 1897-1907, of all newly admitted and transferred patients, in whom the catamenia were present, in the Holloway Sanatorium Hospital for the Insane. The

patients were all drawn from the upper and middle classes, and their ages varied from seventeen to fifty-five years.

In all the menstrual history of 395 patients was examined, two types of mental disease being practically unrepresented—idiocy or imbecility and insanity with epilepsy, such cases not being admitted. The proportion of cases of general paralysis of the insane, too, is much lower than would be found in a pauper asylum, owing to the comparative rarity of this disease in women amongst the class from which the hospital draws its patients.

The diagnosis of the type of disease from which the patients suffered is that given in the register of patients, the large classes of mania and melancholia being subdivided into recent, chronic, and recurrent cases.

The duration of the menstrual period in these patients was not noted in the register of menstruation kept. This varies in the normal woman from two to eight days, the average being four or five days; and in a recent investigation into menstruation in the insane, Dr. T. C. Mackenzie noted that in a series of fifty patients observed for six months, five days was the average duration of period.

The relationship of the function of menstruation to mental processes is a very interesting one, and has been exhaustively studied by French writers. Icard, in his work, *La Femme Pendant la Période Menstruelle*, states that "the menstrual function can by sympathy, especially in those predisposed, create a mental condition varying from a simple psychalgia, that is to say, a simple moral malaise, a simple troubling of the soul, to actual insanity, to a complete loss of reason, and modifying the acts of a woman from simple weakness to absolute irresponsibility," and gives an alarming list of manias—pyromania, kleptomania, etc.—which may appear in that condition.

By the relatives of a mentally affected patient, abnormal menstruation is one of the most common causes given to account for the patient's state, and they frequently appear to share the old view that menstruation was the elimination of noxious products from the body—the retention of these noxious products in the body accounting to them for the insanity displayed.

Theories as to the nature of the function of menstruation

abound, but when its relation to insanity is studied, Geddes and Thomson's view, advanced now many years ago, that menstruation is an anabolic excess, or a highly specialised means of balancing anabolism and katabolism, seems to be confirmed; for when anabolism is at a low ebb as in melancholia, in which form of mental disease there is a marked diminution of normal secretions, a lowered muscular power, a lengthened reaction time, and a general deficiency of vitality, amenorrhœa or highly irregular menstruation is almost always present. Esquirol and Morel estimated that derangements of menstruation form one-sixth of the physical causes of insanity. That they are present in one-sixth of all cases of mental disease in women is undoubted—in my series of 395 patients between puberty and the menopause, menstrual derangements were present in one third of the cases; in some types of mental disease the incidence is even higher, *e.g.*, in a series of adolescent cases, tabulated by Bevan Lewis, 57 *per cent.* suffered from menstrual derangements. Abnormal menstruation, however, instead of being one of the causes of mental disease is probably one of the most striking physical symptoms of a general toxæmia of, in many cases, lymphogenous origin proceeding from the alimentary tract; distinct evidence as to such toxæmia being obtained by the presence of a leucocytosis, varying in amount with the severity of the disease manifested, by the presence frequently of indol in the urine, or by various agglutinins in the blood.

Taking the regularity or irregularity of this function as a symptom, the previous history in regard to menstruation of patients suffering from mental disease is highly instructive. In those forms of mental disease where physical ill-health is most clearly shown—melancholia, confusional insanity, acute delirious mania, general paralysis of the insane—there is a previous history of abnormal menstruation or of complete amenorrhœa in one half of the cases, *e.g.*, in eighty-three cases of recent melancholia, amenorrhœa varying in duration from two months to two years was present in twenty-three cases and irregularity in sixteen cases. One of the most striking histories in this series is that of a patient, æt. 32, admitted suffering from melancholia. As a child she had menstruated at the age of 11 months regularly for ten months; menstruation then ceased, and began again at the age of ten years, continuing normally

till the age of eighteen. She was a somewhat backward child mentally, but strong and healthy. At the age of eighteen there was marked dysmenorrhœa, and amenorrhœa followed for several years. At the age of twenty-seven patient was admitted to a mental hospital, acutely maniacal. She was treated there for seven months, and made a rather sudden recovery, which coincided with the re-establishment of the catamenia. Menstruation was regular for five years, and patient maintained good mental health. Then she became hypochondriacal, with erotic ideas, and was admitted to this hospital, where she was treated for some months, and eventually discharged recovered. For the first four months, while under treatment, there was amenorrhœa, and patient was depressed and confused. Menstruation was then re-established, the mental improvement corresponding with its return. Her further history I have not been able to trace.

Another case with recurrent attacks of mental disease presented, instead of precocious, much retarded menstruation, the catamenia beginning in her twenty-first year. This was followed next year by an attack of acute mania, and previous to this, there had been a similar attack at the age of eighteen. Patient was admitted here at the age of twenty-five, again maniacal, and was discharged relieved. Menstruation in her case while under treatment here was regular. A third case, a married woman, admitted at the age of thirty-three with melancholia, had only menstruated "once or perhaps twice" in her life.

When amenorrhœa has persisted for years previous to a mental attack, there being no local cause, there is usually a history of physical disease such as anæmia.

Twenty-five such patients were admitted with a hæmoglobin percentage of from twenty to forty, and red blood-corpuscles as low as one million eight hundred thousand in one case. On discharge the hæmoglobin had risen to from seventy to eighty *per cent.* and the red blood-corpuscles to three millions eight hundred thousand to four million, menstruation being regular. Patients admitted with a tendency to phthisis have usually had a long history of irregularity of menstruation.

In mania three-fourths of the cases admitted had a history of previous regularity of this function, and in delusional and moral insanity, dementia, and weak-mindedness, regularity was the rule. In the three cases of general paralysis of the insane in

this series, two had been previously "regular" at the onset of the disease, and one aged forty-five had had amenorrhœa for years.

Among the patients admitted below the age of twenty, all had had amenorrhœa for some months previous to the mental attack. One such patient, an English girl in a French boarding-school, had made many desperate suicidal attempts before admission to this hospital and continued acutely suicidal for months. Amenorrhœa in her case persisted for six months after admission, considerable mental improvement being evident before the catamenia returned.

Of definite ovario-uterine disease, functional or organic, previous to the onset of mental disease, little history is obtained, but patients of this class have almost invariably been treated early for any uterine anomaly. Very few cases of malposition of the uterus were ascertained, and all had been rectified previous to admission. Dysmenorrhœa and scantiness of menstrual flow appear to be more prevalent in melancholia than in any other type of mental disease (see Tables I and II).

When mental disease has definitely manifested itself, it is observed that menstruation varies much according to the type of disease shown. In mania this function is as a rule regular, over two-thirds of the cases in this series being so. Amenorrhœa was present in twenty-three out of one hundred and twenty-eight cases. Cases of chronic and recurrent mania menstruated regularly almost invariably, and amenorrhœa was present in three cases. In one hundred cases of recent melancholia amenorrhœa was present in fifty-two cases, or over fifty *per cent.*; fifty *per cent.* of the chronic cases were regular, and in one quarter of the recurrent cases there was amenorrhœa. In confusional insanity amenorrhœa or marked irregularity of menstruation is often observed.

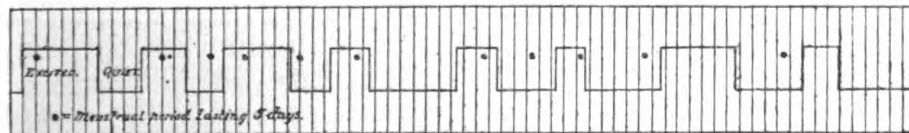
In delusional insanity, two-thirds of the cases menstruated regularly and amenorrhœa was extremely rare. In six cases of moral insanity observed the menstrual function was regular and painless. Cases of primary dementia and weak-mindedness menstruated regularly as a rule, and cases of stupor almost invariably so. Two out of three cases of general paralysis of the insane menstruated regularly at the onset of their disease; one continuing to do so till her death two years after the disease was diagnosed, one becoming amenorrhœic in a year.

The third had been previously amenorrhœic for years and continued so.

These observations amongst another class of patients agree with the result of an investigation into menstruation in the insane, studied in 500 cases by Dr. Sutherland, and published in the *West Riding Asylum Reports*, in which it was found that in melancholia there was generally amenorrhœa, that in dementia patients usually menstruate in a normal, healthy manner, that in general paralysis of the insane, change of life appears early, and that in mania exacerbation of excitement occurs at that time (see Table III).

The increase of mental symptoms during menstruation was noted personally for the years 1905-1907 inclusive, and it was observed that out of forty cases of mania, twenty-five, or five-eighths, showed marked increase.

In the more chronic cases this took the form of increased garrulousness and quarrelsomeness, with sleeplessness, while the more acute cases showed increased eroticism where this was present, with increased degradation of habits and intense and prolonged excitement. In one case a girl, æt. 25, it was noted that the excitement occurred exactly one week after the cessation of the menstrual periods, patient then becoming highly erotic. In the recurrent cases of mania there was less change; one such case, whose attacks of excitement apparently corresponded with the menstrual periods, was carefully analysed, and the attacks of increased excitement, which were very severe (patient being highly destructive, noisy by night and by day, and at times violent), were not found to coincide with the menstrual periods as a rule (see annexed Chart, which is spaced in periods of one week, the commencement of the menstrual period, which lasted for five days in this patient, being indicated by a dot).



In all the cases of stupor there was a marked increase of all the symptoms during menstruation, the patients being

animate automata for the time being—washed, dressed, fed, even carried about.

In one such case the initial mental attack was attributed to over-exertion during the menstrual period; patient, a girl, æt. 21, having spent the whole day while menstruating at dancing and gymnastic classes, was found by the police in the evening wandering far from home in an absolutely dazed condition and was taken to an infirmary.

In delusional insanity, the delusions occasionally become more prominent during the menstrual period, and it was noted in one case amongst six of moral insanity that the girl became more morally irresponsible and more highly erotic during her menstrual period.

Less change is noted in melancholia, the menstrual period in this state being so often suppressed or highly irregular.

Masturbation was noted for the years 1905–1907 inclusive in 9·6 *per cent.* of the patients, the average age of each patient when admitted being thirty-one. In seventeen cases there was a previous history of this practice before admission. "Masturbation," says Bevan Lewis, "especially lays the ground work for an attack of insanity by the nutritive changes induced in the nervous centres—their exhaustion and the ultimate impoverishment of blood." Ten of the cases previously addicted to this vice were discharged "not improved" and were absolutely degraded, masturbating constantly in the most shameless way.

Eleven cases recovered, two remain, and four were discharged relieved. In eight out of thirty-one cases, there was amenorrhœa, and five menstruated irregularly. Of the thirty-one cases seven were married women, and the practice seemed to be equally common in mania and melancholia.

Irregularity of the menstrual function was the rule in alcoholic cases, but only a small number of these occurred in this series. Of four morphinomaniacs, two menstruated regularly and two irregularly.

Of forty patients who, for periods of from one month to six months or more, enjoyed the benefit of change to the seaside during their residence in hospital, 15 *per cent.* showed change in the direction of increased regularity of menstrual function, and several patients previously irregular in this respect menstruated regularly on their return from Brighton. It was

noted that patients approaching the menopause menstruated more regularly after change to the seaside.

In this series of 395 patients there were eleven puerperal cases, while one patient was admitted in the fourth month of pregnancy and delivered of a healthy child at full time. Of these twelve patients, six suffered from mania and six from melancholia; their average age was twenty-nine; seven were primiparæ, four were having their second confinement, and one her fourth. In eleven cases the first symptoms were observed in from two to five weeks after parturition, though the patients were not admitted to the hospital till from one to seven months thereafter. All had ceased to nurse the child; and except two, in whom the catamenia returned in three and four weeks respectively, all were amenorrhœic. All the puerperal cases were discharged recovered; two were still amenorrhœic, the others menstruated regularly.

The amenorrhœa of puerperal cases is often peculiarly obstinate, but Macleod, in a summary of 814 such cases, collected from English and Scottish asylums, said: "No case can be considered as cured till menstruation is regular."

The one case of insanity during pregnancy (which is remarkably infrequent) was admitted in 1902, æt. 27, in the fourth month of pregnancy, acutely maniacal, and has remained an inmate of the hospital ever since; very deluded, frequently violent, and always addicted to very foul language. The catamenia returned in her case two months after the birth of her child, and have been regular ever since then.

The menopause occurred in nine patients who are still inmates; eight of these suffered from chronic mania, one was a case of delusional insanity. The average age at which it occurred was 48·8 years, and in no case was there any mental improvement visible thereafter. The average duration of their residence in hospital previous to the menopause was five and one-third years.

In two cases over fifty menstruation returned after an absence of several years, and one case showed remarkable mental improvement after its return. The other case began to menstruate again after change to this hospital, having previously been two years in another asylum.

Of the cases discharged as "recovered" in this period, 1897-1907, out of 174 cases 150 were menstruating regularly,

twenty-two were irregular, and only two, one of whom was probably approaching the menopause, were amenorrhœic. Of the eighty-four cases discharged "relieved," forty-six menstruated regularly and seven were amenorrhœic (five were over forty years of age); and of the sixty-five cases discharged "not improved," ten menstruated irregularly and sixteen (nine of these over forty) were amenorrhœic.

In two classes of cases especially there may be considerable mental improvement before the catamenia are re-established, adolescent and puerperal cases. In both these classes it is of the greatest importance that the menses should be thoroughly re-established before the patients are considered as cured; and treatment, both general and local, should be perseveringly directed to this end. Local treatment should be avoided, if possible, in young girls, but may ultimately be required, and often then has a very speedy effect. The return of the menses, or restored regularity of menstrual function, is almost invariably of good omen in mental disease, except in such cases where this return is not accompanied, or followed in some months' time, by distinct mental improvement. Such cases as show restored physical health in this and other respects without a corresponding mental improvement (not necessarily immediate) tend to remain amongst the "chronic" class of our asylums.

TABLE I.—*Previous History.*

Disease.	Menstruated				Amenorrhœic.
	Cases.	Unknown.	regularly.	irregularly.	
Mania, recent .	123	19	78	21	5 (2 months to 2 years)
„ chronic .	8	—	6	1	1 (2 months)
„ recurrent .	37	—	23	12	2 (2 months)
Melancholia, recent	100	17	44	16	23 (2 months to 2 years)
„ chronic	6	—	4	2	—
„ recurrent	20	1	7	9	3 (2 months)
Delusional systematised	32	5	16	10	1
Insanity, non-systematised	31	1	25	3	2
Confusional insanity	2	—	2	—	—
Moral insanity .	6	—	4	2	—
Acute delirious mania	1	{ preceded by pleurisy followed by pneumonia }		—	1
Stupor .	7	—	7	—	—

TABLE I (*continued*).

Disease.	Cases.	Menstruated				Amenorrhœic.
		Unknown.	regularly.	irregularly.		
Dementia, primary	5	2	3	—	—	
„ secondary	2	—	1	—	1	(for years)
Weak-mindedness	12	1	9	2	—	
General paralysis of the insane	3	2	—	—	1	(for years)
	395					

TABLE II.—*History of Previous Uterine Disease (functional or organic).*

Mental disease.	Oligor-rhœa.	Dysmen-orrhœa.	Menor-rhagia.	Metror-rhagia.	Mal-position.
Mania	5	1	4	11	1
Melancholia	13	12	3	11	2
Stupor	1	1	1	—	—
Delusional insanity	8	2	—	7	1
Dementia	—	—	—	1	—
General paralysis of the insane	—	—	—	1	—

TABLE III.—*Relationship of Menstruation to type of Mental Disease.*

Mental disease.	Cases.	Menstruated		Amenorrhœic.
		regularly.	irregularly.	
Mania, recent	123	70	30	23
„ chronic	8	6	2	—
„ recurrent	37	28	8	1
Melancholia, recent	100	34	14	52
„ chronic	6	3	2	1
„ recurrent	20	7	8	5
				[4-6 months]
Delusional insanity, Systematised	32	18	11	3
Non-systematised	31	24	2	5
Confusional insanity	2	—	1	1
Moral insanity	6	6	—	—
Acute delirious mania	1	—	—	1
Stupor	7	6	1	—
Dementia, primary	5	5	—	—
Weak-mindedness	12	6	4	2
General paralysis of the insane	3	2	—	1
	—	(1 amenorrhœic in 2 years)		
	395			

TABLE IV.—*Discharges.*

Discharged.	Cases.	Menstruated		Amenorrhœic.
		regularly.	irregularly.	
Recovered	174	150	22	2 (1 menopause)
Relieved	84	46	31	7 (5 over 40)
Not improved	65	35	10	16 (9 over 40)

A Research into the Cranial Measurements of the Insane, Comparing them with those of the Sane. By DAVID THOMSON, M.B., Ch.B.Edin., Formerly Assistant Medical Officer, Horton Asylum, Epsom.

WHILE acting as Assistant Medical Officer in the London County Asylum at Horton, Epsom (1907–1908), I made an investigation into the head measurements of the various classes of male lunatics, contrasting these with their bodily height and weight.

I took similarly the cranial and bodily measurements of the attendants at the asylum so that I might have a comparison between the sane and the insane to see if any marked difference existed between the two.

The number of patients I examined was 408 and the number of attendants was 80.

With regard to the head I took three measurements :

(1) *The circumference* at the level of the glabella and occiput.

(2) *Antero-posterior measurement* from the occipital protuberance to the glabella.

(3) *Lateral measurement* from ear to ear (measuring from the upper junction of the external ear with the head).

I made every measurement myself with the same tape-line to make the results as accurate as possible.

The following table gives the results. The measurements given are the average of all the measurements taken in each class.

Head measure.	Head measurements in centimetres.			Height in centimetres.	Weight in kilograms.
	Circumference.	Antero-posterior.	Lateral.		
Attendants	57.2	35.3	31.2	174.2	76.5
Total cases of insanity	56.4	34.8	30.2	167.1	62
Organic brain disease	56.9	35.1	30.2	167.1	64
Epileptic insanity	56.9	35.1	30.7	166	62.4
Delusional insanity	56.6	35.1	30.2	167.4	62.4
General paralysis of the insane	56.6	34.8	30.2	170.2	66
Secondary dementia	56.4	34.5	30	166.3	62
Dementia præcox	56.1	34.8	30.5	166	59.8
Mania	56.1	34.8	30.2	165.8	61.2
Melancholia	56.1	34.8	30.2	167.6	59.9
Imbecility (low grade), practically idiots	54.6	34.3	29.5	164.9	56.9

It will be seen from this table that the attendants have the largest heads. They are also taller and heavier than the average lunatic.

The attendants are to some extent chosen for their strong physique, but intelligence is the chief factor.

Both the attendants and the insane are from practically the same section of the population, *i. e.* from the lower middle-class to the poorest. The patients include all those who cannot afford a weekly sum of say twenty to thirty shillings a week for whom there is practically no accommodation other than the public asylum. There are included therefore many who are not very poor.

Thus it seems that the sane have a better cranial and physical physique than the insane of the same rank of society.

It is interesting to observe that the next best cranial and bodily physique is shown by the organic brain-disease patients, the epileptic insanity, delusional insanity, and the general paralytics. Another interesting group comprises mania, melancholia, secondary dementia, and dementia præcox.

The low grade imbeciles on the other hand show most decidedly the poorest measurements of head and body.

These facts suggest an interesting relationship between the degree of physical development and the type of mental disorder.

The best physiques and largest heads are found in those whose mental disorders are, in a manner of speaking, of the

sanest variety—paranoia, epilepsy and the mental states associated with coarse brain-disease, the outcome of senility, arterial disease and syphilis.

True psychoses such as mania and melancholia and syndromes resulting in early dementia are definitely associated with physical degeneracy. Although heredity is a strong ætiological factor, probably all the conditions that lead to physical degeneracy lead also to lunacy, imbecility, feeble-mindedness, inebriety, and criminality.

I am indebted to Dr. Lord, Superintendent of Horton Asylum, for the facilities he gave me in acquiring the above data, and for his supervision and assistance.

On the Certification of Mental Defectives as proposed by the Royal Commission. By H. B. DONKIN, M.D.

THE recent Royal Commission on the Care and Control of the Feeble Minded was occupied with two main subjects of inquiry. *First*, the existing methods of dealing with idiots and epileptics, and with imbecile, feeble-minded or defective persons not certified under the Lunacy Laws. *Second*, the constitution, jurisdiction and working of the Commission in Lunacy, and other Lunacy Authorities. The Commissioners were requested also to report on any amendment of the law which should appear desirable in relation to these subjects.

Out of the many and interesting matters for discussion which this Report suggests, and after rejection of certain more alluring but more contentious subjects, I have selected one of the most important questions that arise under the first of the above-mentioned headings, *viz.*, that of the control and certification of such mentally defective persons as are not now certified under the Lunacy laws, and are generally regarded and treated as "uncertifiable." I think, indeed, that this subject is perhaps the most important in all the work of the Commission, for the chief reason of this inquiry being pressed upon the Government in 1904 was the widespread conviction among experienced men and women of the multiform evils resulting to the community from insufficient provision for the control of large numbers of persons whom the Lunacy Laws fail to reach.

In setting forth this matter of the proposed certification of the "uncertifiable," I shall mostly assume, without attempting to illustrate by many examples, the necessity for the compulsory detention of many mental defectives who are now unrecognised by the Law; and also, with a few words of present comment, the need of fresh legislation in order to compass this object.

This need appears to me now to be unquestionable. But it has been argued, and perhaps it may be still held by some tenacious disputants, that the meaning of the word "lunatic," as given in the glossary in Sec. 341 of the Lunacy Act (1890), justifies the inclusion under the term "lunatic" of all persons of unsound mind *of any description*. It will of course be observed here that by these disputants the term "unsound mind" is, for the purpose of their contention, necessarily interpreted and used in the widest and most popular and wholly untechnical sense. At the outset, indeed, of the sittings of the Royal Commission, before I had given the close and critical attention to this point which the inquiry demanded, I was myself inclined to think that the term "unsound mind" might possibly be stretched to cover all the classes of mental defect which we were desirous of bringing under the operation of the law. In a series of questions—drawn up by me on behalf of the Commission—which were circulated for answer to some leading experts in lunacy, I rather inadvertently used the term "unsound mind" in the general sense. The very disappointing result was that we received crooked answers from all these experts, including one from the linguistic purist now sitting in your Presidential chair. My question was intended specially to refer to the several grades of mental defectives—mostly of the so-called "congenital" class—who are now uncertified; but the answers all referred to cases of so-called "acquired" insanity, in which certification may be difficult, or sometimes apparently impracticable. I then realised that the term "unsound mind" has a definite and technical meaning, and that my erroneous use of it had deprived me of much of the valuable information which I had sought.

It seems, therefore, clear that in the glossarial interpretation of the word "lunatic" in the Act, which reads, "Lunatic means an idiot *or* person of unsound mind," the word "*or*" is used in its *disjunctive* sense—the terms "lunatic" and "unsound mind" are not convertible—and that the term "unsound mind"

is in very deed employed to denote generally cases of so-called acquired insanity as opposed to idiocy and other grades of "congenital" mental defect. In fact, the term "lunatic" includes the two time-honoured classes, the "natural fool," and the "madman."

It is mainly to avoid this perplexing confusion that the Commission has recommended the general term "mental defect" to denote all mental cases requiring legal recognition and treatment, and proposes to abolish the technical and official use of the term "lunatic." The criticism, therefore, in the current *Quarterly Review*, that it is not practicable to remove the word "lunatic" from the English dictionary, seems to me somewhat irrelevant. It is proposed to remove it only from the *Statute Book*, on the very practical grounds above mentioned.

In proposing the various subdivisions of mental defectives which are detailed in Recommendation iv in the Commission's Report, and commented on at length in Chapter XXVIII, the Commissioners had solely in view the practical purposes of administration and certification, and in no way aimed at a natural or scientific classification of mental disorders. They deemed it necessary to make as few terminological innovations as possible, while attempting to reduce terminological inexactitudes to the practicable minimum. And especially were they desirous of altering as little as possible the procedure of the existing Lunacy Act.

(1) Therefore, in the *first* subdivision, *i.e.*, "Persons of unsound mind," this term includes most of those who are at present certified under this act, with the exception of "idiots," who come, more properly for practical purposes, in a subdivision by themselves. "Persons of unsound mind" are thus described as persons who require care and control owing to disorder of the mind, and are consequently incapable of managing themselves and their affairs. A "person of unsound mind" thus becomes the official style of the persons popularly spoken of as "lunatic" or "insane." As a matter of fact, most of such persons *are* now certified as of unsound mind on the usual forms of certificate.

(2) In the *second* subdivision, "persons mentally infirm," the Commissioners provide for that considerable class of persons who are now dealt with under Sec. 116 (*d*) of the Lunacy Act, but who are expressly excluded from the class of

“lunatics.” The current description is mostly retained, though slightly altered. It now runs as “persons who through mental infirmity arising from age, or from the decay of their faculties, are incapable of managing themselves or their affairs.” The existing proviso, “*arising from disease*,” is omitted as being unnecessary, since the definition—in subdivision (1)—of persons of “unsound mind,” in which the mental defect is referred to as due to “disorder of the mind,” already provides for such cases.

The next three subdivisions, *viz.*, idiots, imbeciles, and feeble-minded, include respectively the most salient groups of congenitally defective persons whose capacities and conduct are sufficiently distinctive to justify their separate classification for administrative purposes.

In recommending the classification and in adopting the more precise definitions of these terms—already in common use—which were given us at our request by the Royal College of Physicians, we have had in view the object of guiding and facilitating the practitioner and administrator in the matters of certification and ultimate location of the mentally defective. I would once more emphasise the statement that no hard and fast line is drawn, or intended to be drawn, between these conventional classes; and that there is no attempt to establish or define scientifically any distinct forms of natural disorder.

The real practical meaning of these subdivisions is further shown by the remaining four classes with which it is proposed to deal, *viz.*, “moral imbeciles,” “epileptics,” “inebriates” and “deaf, dumb or blind.” These, of course, would be palpable cross-divisions if a natural and scientific classification were aimed at. But they are introduced owing to the practical fact that many mentally defective persons are first discovered and necessarily dealt with from the point of view of the very prominent and obtrusive characters which give the names to these several groups. All mentally defective persons included in these four classes come *naturally* under one or other of the *previous* five classes. For administrative purposes, however, these classes are convenient, and more or less necessary, to the comprehensive scheme of practice advocated by the Commission.

In this context I desire to call attention to some misconceptions which have already arisen concerning the Commission’s

recommendation as to one of the practical classes just mentioned, *viz.*, the inebriate. "Inebriates" are defined for the purposes of the Commission's Report, and of practical administration, as "persons who, being inebriates, are also mentally defective." The same is the case with epileptics. In a review of the Report, however, the general statement is made that the compulsory detention of inebriates is recommended by the Commission, and it is consequently argued that as not all inebriates are mentally defective, inebriates cannot be so dealt with. But the Commission's Report disavows the view that all inebriates are mentally defective. A perusal of what is said in the body of the Report on this head will show only that the Commissioners are of opinion that mental defect is frequently associated with habitual inebriety, and that when, in an inebriate, evidence of mental defect, other than what some may infer from mere inebriety, is established, such an inebriate will properly be dealt with as a "mental defective." The explicit recommendation of the Commission runs as follows:—

"That the powers and duties of the Board of Control (*i.e.*, the Central Authority), should extend to mentally defective inebriates as well as to the other classes of the mentally defective."

This matter is treated at greater length and set forth still more clearly in the recent Report of the Departmental Committee on the Inebriates Acts. While admitting that the recommendation of the Royal Commission that I have just quoted might have been better worded, I take this incidental opportunity of repudiating any imputation on the Commission of having asserted that all inebriates are mentally defective; and, further, of disassociating myself emphatically from those who subscribe to this erroneous dogma.

I proceed now to indicate a few points and difficulties which present themselves in the matter of the certification of such persons as are at present regarded as "uncertifiable." *First*, as regards the control and certification of such cases of original mental defect as *have not been under control previously to attaining the age of 21 years*. If the recommendation of the Commission be adopted, many such persons will be brought under the jurisdiction of the Board of Control. It is proposed that in cases of this kind the same procedure should be followed as now obtains in ordinary cases of petition for a reception

order. The certifier will state on the certificate that the person in question is a mental defective, and will further state under which of the subdivisions (enumerated on the back of the certificate) he should be classed. Doubtless in cases of this kind some difficulty may arise, even as it does now in some cases of unsound mind, on filling up the "facts observed" requirements. But it is proposed to modify this requirement by making it run, "Facts indicating mental defect ascertained by myself during "observation" and "examination"; and "observation" will include any observation of the patients at times other than the examination. This modification will, it is believed, sufficiently meet both present and future difficulties in this matter.

Next, as regards cases of this kind under twenty-one years of age, the Commission recommend a procedure similar to that at present obtaining under the Idiots Act (1886). This procedure will apply to all the classes of mental defectives, except (1) and (2) (except, *i.e.*, "persons of unsound mind," and "the mentally infirm" now dealt with under Sec. 116, *d*). For details as to this procedure, I would refer you to Recommendations xlix-liv in the Report of the Commission; and, as neither time nor your patience will permit me to dwell longer on these very important details, I would say, once for all, that what is new and most essential in this matter of certification as dealt with in the Report will be found written in Chapter XXVIII thereof, and in Recommendations iv, xlix-liv, and lxx.

It is really on the certification and control of one of the classes of mental defectives enumerated in Recommendation iv and commented on at length in Chapter XXVIII, that the chief practical interest of our subject now centres. This is the class technically denominated "Feeble-minded," as differing, in several practical respects from "idiots" and "imbeciles." In thus officialising or consecrating the term "feeble-minded," it will be observed that we have adhered to the English use of the term, not altering, but only classifying, its contents. It may not be quite universally known, even in this assembly, that the prevalent meaning of this term in America is comprehensive of all grades of so-called congenital defect. No one, not even the most degraded driveller in that happy land, is ever called an idiot.

But the class for which we ask for recognition as "feeble-minded" is what our American brethren and others term "high-grade imbeciles." They are far removed from the idiot group, and, indeed, may be ranked as the very aristocracy of "natural fools." They are described as persons who may be capable of earning a living in favourable circumstances, but are incapable from mental defect existing from birth or from an early age of competing on equal terms with their normal fellows, or of managing themselves and their affairs with ordinary prudence.

Among this class are found most of the mental defectives who are criminals, or are harmful, dangerous or burdensome to the community. They abound in the prisons, the work-houses, and the streets. In many, if not most, instances their mental defect is detectable by careful observation before the period of childhood has passed; and it is clear that if they could be brought under control in early life they would not only be prevented from doing harm, but also would be cared for better than at present, and utilised in various ways for the comparative benefit of the community.

For illustrations of these statements I would refer you to Part IV, Chapter XX, of the Report, which in a small compass represents the result of a considerable amount of observation.

It is with this potentially noxious class of defectives that the difficulty of certification is the greatest. "Delusions" and "hallucinations," so dear to the mind of the would-be certifier, lend no assistance here; and it seems clear that in the bulk of these cases, especially during their minority, the existing procedure and method of certification under the 1890 Act is absolutely inappropriate. Hence it is recommended that in these youthful cases a procedure similar to that of the "Idiots" Act should be followed; and that, with due safeguards, a medical certificate, endorsed by a specially qualified medical officer under the local authority, should be the sanction for control, without the intervention of a "judicial authority."

When application for control is made for the first time in cases of this kind which have actually proved themselves to be dangerous, and have already attained the age of twenty-one, no material alteration, as we have seen, in the form of the present certificate is proposed. Doubtless, however, in such cases the facts related will bulk more largely than the facts observed; but with a slightly modified certificate, and, in consequence, a

greater allowance of time for observation, this difficulty does not appear to be insuperable.

For several years now I have had experience of marked cases of this kind, consisting of convicts with sentences of penal servitude, and therefore, as a rule, guilty of serious crime. These men either were convicted without any question raised or observations made of their mental condition until they were committed to prison; or were convicted, in spite of such defence being put forward, at the direction of the Court. But under experienced observation in the convict prison to which they are ultimately sent, they are usually soon set aside as mentally defective; and when they are brought before me I rarely find much difficulty in soon satisfying myself that they should be classed and treated accordingly. Nor should I often find difficulty in detailing in a certificate certain grounds for this opinion observed by myself during even a short interview.

Enough has now been said to indicate the chief classes of persons whose control by fresh legislation appears to be called for. The recommendations of the Commission generally have been made for the better identification and treatment of different types and degrees of mental defect, and with a view to the promotion of uniform and consistent certification. Whether this object is likely to be attained by the measures proposed is, I trust, a fruitful subject for your discussion.

DISCUSSION

At the Quarterly Meeting held at Cambridge, February, 1909.

By request of the President, Dr. DONKIN then read Recommendation No. 70 of the Report.

That the following Form be Adopted for the Certificates of a General Medical Practitioner, a Medical Officer of the Committee for the Care of the Mentally Defective, or a Certifying Medical Practitioner under the Act for the Care and Control of the Mentally Defective.

FORM.

Certificate of a medical officer of the committee for the care of the mentally defective of the council of the county or county borough, or of a certifying medical practitioner or of a general medical practitioner.

In the matter of A. B— (1) in the county or county borough (2) of (3) a person alleged to be mentally defective.

I, the undersigned, C. D—, do hereby certify as follows:

(1) I am a person registered under the Medical Act, 1858, and I am (the medical officer of the said committee) or (a certifying medical practitioner appointed by the said committee) or (in the actual practice of the medical profession).

(2) On day of , 19 , at (4) in the county or county borough
(5) of (separately from any other practitioner) (6), I personally examined the
said A. B— and came to the conclusion that he is mentally defective within the
meaning of Section of the Act for the Care and Control of the Mentally Defec-
tive, and that he requires care and control accordingly.

(3) I formed this conclusion on the following grounds, namely :

(a) Facts indicating mental defect ascertained by myself during observa-
tion (7) and examination (8), namely :

(b) Facts communicated by others (9).

(If an urgency certificate is required it must be added here. See subjoined
form.)

(4) In my opinion the said A. B— comes within the class of mental defect defined
in sub-section of Section of the Act for the Care and Control of the Mentally
Defective (see back).

(5) The said A. B— was (or was not), in my opinion, in a fit condition of bodily
health to be admitted or removed to such a hospital, institution, registered house or
home as is suitable for persons of mental defect coming under Clause of
Section of the Act (10).

(6) I give this certificate, having first read the sections of the Act of Parliament
printed on the back.

Dated

(Signed) C. D—, of (11).

The schedule printed on the back would be as follows :

(1) Extract from Section 317 of the Lunacy Act, 1890, incorporated in the Acts
for the Care and Control of the Mentally Defective.

Any person who makes a wilful mis-statement of any material fact in any
medical or other certificate, or in any statement or report of bodily or
mental condition under this Act, shall be guilty of a misdemeanour.

(2) Section of the Act for the Care and Control of the Mentally Defective con-
taining the definitions of classes of mental defect (as defined in Recom-
mendation iv).

FORM.

Statement accompanying Urgency Order.

I certify that it is expedient for the welfare of the said A. B— (or for the public
safety, as the case may be) that the said A. B— should be forthwith placed under
care and control.

My reasons for this conclusion are as follows (state them) :

(1) Insert residence of patient.

(2) County or county borough, as the case may be.

(3) Insert profession or occupation, if any.

(4) Insert place of examination, giving name of street, with number or name of
house, or should there be no number the christian and surname of occupier.

(5) County or county borough, as the case may be.

(6) Omit this where only one certificate is required.

(7) "Observations" include any observation of the patients at times other than
the examination, for instance, at a receiving house or reception ward.

(8) If the same or other facts were observed previous to the time of examina-
tion, the certifier is at liberty to subjoin them in a separate paragraph.

(9) The names and christian names (if known) of informants to be given, with
their addresses and descriptions.

(10) Strike out this clause in case of a private patient whose removal is not
proposed.

(11) Insert full postal address.

The PRESIDENT: Does that apply to every case, both persons of unsound mind
and others?

Dr. DONKIN: Yes.

The PRESIDENT: To all cases, of all kinds?

Dr. DONKIN: Yes, except those whom we recommend should be dealt with
under a procedure similar to the Inebriates Act.

The PRESIDENT said those present had heard that exceedingly interesting and

important communication on that particular point in the Report on the Care and Control of the Feeble-minded, namely, that dealing with the manner of certifying. It was one of the points which came most closely home to all of them, because many of the members had to give certificates, and those who had not to give them had to see that they were in proper form. The certificate suggested by the Royal Commission was one which was manifestly more comprehensive, and might include—and was, indeed, intended to include—a much larger group of persons under its scope than the certificate now in use. Those present had heard its terms, and the matter was now open for discussion by the Association.

Dr. GEORGE H. SAVAGE said that he had had an opportunity of saturating himself with the Report of the Commission which was now under consideration, and he had felt the very greatest interest in it. Since its issue, also, he had been responsible for a 25-page article in the *Quarterly Review* on the whole subject. It would thus be evident that he had considered the matter very carefully, and since then he had been in communication with many of those in authority who were connected, directly or indirectly, with it. On the previous day he was talking with a legal friend, who held strong views on the subject. That gentleman recognised, as they all did, the very important class which had been referred to as "feeble-minded," but he thought it would be a long time before the English people could be persuaded to legislate in such a way as to cover all those groups. The gentleman he had just referred to criticised adversely the proposal to have only one certificate. Dr. Savage considered that one of the faults of the 1890 Lunacy Act was the fact of magisterial interference, but his legal friend said that if one was going to commit people as feeble-minded on one certificate without legal interference, it would be a tyranny which was sure to be abused. Dr. Savage felt very strongly that the certificate should be modified in the direction suggested. His view was that the certificate as at present filled up was altogether insufficient and inefficient. Many of those present had seen people whom they knew to be insane, but whom they could not prove to be insane by interview after interview. Yet their history was conclusive that they were suffering from progressive mental disorder which might be going to end fatally. Despite that, however, at the time of the interview the facts observed by themselves might be insufficient, he felt that, in treating the insane and weak-minded who were criminal, whether weak-minded or morally defective, one would have to depend on facts communicated by others, which in the existing procedure are not of much assistance. It had been pointed out by Dr. Donkin that a great deal of misunderstanding had arisen, and still continued, in reference to the term "unsoundness of mind." The Commissioners certainly, in former years, maintained that "unsound mind" and "lunatic" were equivalent. He thought the Commissioners had got to fully understand that alienists could not accept that; that there was much unsoundness of mind which could not be looked upon as lunacy. It was interesting to find that it was now generally appreciated that the term "unsound mind" really referred to an acquired disorder of mind; that "unsound mind" as referred to in the certificates of lunacy did not cover feeble-mindedness. With regard to the suggestion that the 116th clause should be extended, he thought all who had experience of the practical working of the Lunacy Act would feel that it could very well and satisfactorily be extended. But, of course, it was chiefly for the control of the property of the persons, not the control of the persons themselves—those who, from senile or other mental changes, were unfit to manage their affairs. In certain cases he had tried whether the authorities would accept some of those feeble-minded inebriates under that clause, but they declined to do so. In the same way he had attempted to get some of the morally defective individuals included under it—persons who, as soon as they got their liberty and the control of their affairs, at once went to ruin. But at present the Court of Chancery said they could not accept those cases; and he felt it to be of great importance that the recommendation of the Commission with reference to Clause 116 should be carried out. All must agree with what Dr. Donkin said as to the importance of early consideration of mentally defective persons. In nearly every clause the Report said that if good was going to be done, not only to the individual, but to society, those individuals must be isolated and segregated early; and the earlier that could be done the better. He supposed that one of the greatest difficulties was the provision which would have to be made for the various groups of feeble-

minded persons. It was interesting and proper that Dr. Donkin should make it clear by his paper that the Commissioners, in reporting, did not refer to inebriates as inebriates, but only to insane inebriates. Nor did they apply it to simple epileptics. One could not say that every epileptic would or would not be dangerous sooner or later. There were many other interesting points in the report, to which, however, he would not then refer. The question of heredity was strongly brought out in the report. One of the most striking features of the report and its recommendations was, that the whole of the feeble-minded, whether epileptic, or criminal, or inebriate, or other, should be all under one head; that one lot should not be under the Poor Law, another under the Criminal Department, and another under the Education Department, but that it should be a uniform grouping. He knew that those of their brethren who were connected with idiot asylums and institutions of that kind objected strongly to some of the recommendations in reference to certification and isolation of the weak-minded; they preferred to remain outside the lunacy grouping, to be a law unto themselves. The next most important thing which he thought the Commission had impressed upon them, and which Dr. Donkin felt, was the importance of getting those people certified and isolated as soon as possible, and completely. For, as the report pointed out, though there might be a certain amount of danger of transmission from the insane to their offspring, the danger of transmission of feeble-mindedness was even more striking. Most alienists recognised that it was the smaller deviations, as represented by feebleness of mind, which were more likely to be transmitted than the graver ones. He felt that members of the Association must be very grateful to Dr. Donkin for coming there that day and addressing them. Dr. Donkin had not only most patiently sat on the Commission, but—he could say it as one who had submitted to cross-examination by the Commissioners—he was a most patient inquirer after the truth, and he saw that medical witnesses were not overborne. Dr. Donkin had had experience not only as a Commissioner, but a large knowledge about criminally feeble-minded persons. Dr. Savage therefore wished to personally thank Dr. Donkin for what he had done.

Dr. GEORGE E. SHUTTLEWORTH said that it gave him very great satisfaction to hear from the mouth of so distinguished a member of the Commission as Dr. Donkin a very careful, succinct, and intelligible summary of the practical issues of the Report. Probably other members had had the eight volumes of the Report lying on their study table, and for himself he might say he had taken them to bed sometimes and read a little occasionally. But it was almost beyond the power of most ordinary men who had work to do to read through the whole eight volumes. If, therefore, in his few remarks he showed lack of acquaintance with the Report, he hoped he would be forgiven. The first point he wished to discuss concerned the adoption of the comprehensive term "mentally defective" as covering the whole class of mental infirmity, ranging from what it was nowadays customary to call "lunacy," to mild degrees of weak-mindedness. He feared that would be productive of a certain amount of confusion. At any rate it went counter to what they had been accustomed to for the last ten years or so. He was himself a member of the Departmental Committee, whose sittings eventuated in the Act of 1899, dealing with "mentally defective" children. Since the passing of that Act "mentally defective" had attained a technical and statutory meaning. On that ground he regarded it as a mistake to make it a comprehensive term for every class of mental infirmity. Moreover, it did not seem to be etymologically correct, for "defect" implied a lack of finish; not something which had been lost, but the absence of something which had never existed. Mental defect was not strictly a breakdown, but a mentality which had never been complete. He thought it was rather straining language to apply the term to all acquired insanities which were met with in later life. He knew what mental derangement was, but he could not quite accept the view that a maniac was a mentally defective person; neither did he think the public would. Derangement and disturbance of mind were essentially different conditions from those of a mind which had been defective from the beginning. He thought there was another reason why those who had to do with mentally defective children objected to all being included under one class of mental abnormality, namely, that it was not administratively desirable. The institutions for imbeciles, with which he was connected for many years, were, up to 1886, under the general provisions of the Lunacy Law, *i.e.*, they were all

included, as was wished by the Royal Commissioners now, under one authority common to lunatics, and also they had—what the Royal Commissioners did not now recommend—uniformity of certificate and administration. Inasmuch as many of their cases were mere children, six, seven, or eight years of age, it appeared to him to be the height of absurdity that they should have been required to be submitted to the judgment of two medical men, who would certify them as persons of unsound mind in the same form as if they were adult lunatics. "Unsound mind" was an expression used before the passing of the Act of 1886 to a considerable extent in the certification of defective children, and, as far as he knew, it was never objected to by the Commissioners. In 1886 the Idiots Act was passed, and then, for the first time, "imbecile" became a statutory term. In 1899 the expression "mentally defective" was first legally used, and there was some difficulty in knowing where "mentally defectives" left off, and "imbeciles" began. The line of demarcation necessarily differed very much with the ideal of the examiner. Dr. Donkin had said that in using the term "feeble-minded" they followed the English plan, and he, Dr. Shuttleworth, was very glad that that had been the case rather than the adoption of the American plan of including among the feeble-minded the whole class of congenital mental defectives and those dating from early life. He feared that whatever term was adopted there would be the same attempt to extenuate, so as not to injure the feelings of parents. It was in that way that the idiots in America became, ultimately, the "feeble-minded," and if all those children were to be classed as "mentally-defective" some other name would have to be found for the condition, or else the American style would have to be followed, or the subterfuge adopted, as a medical friend had remarked was likely, of calling the higher-grade cases "non-expert members of society." Another practical difficulty occurred to him. One had to do, perhaps, with the child of a gentleman in high position, the child being six or seven years of age. He was examined, but the examiner could not make up his mind whether he was an absolute mentally defective child, or whether he had only some degree of mental backwardness. Perhaps the point could only be made clear with the progress of a few years. To have to put such a child down as mentally defective, and class him among the heterogeneous mass of lunatics in the country, seemed far from natural or scientific. And he would like to ask Dr. Donkin what the compulsory notification of all cases received for special instruction would probably lead to? If every child unfit for the ordinary school curriculum had to be notified, registered, and possibly certified later on, how were those gradations to come in? His own opinion was that such a process would defeat the very object which the inquiry seemed to have in view, namely, to draw up and keep an official record of the children who were defective in mind. Such was parental affection, and such the dread of the stigma attaching, or supposed to be attached, to the offspring, that a stringent regulation like this would deter many parents from seeking advice from those best able to give it, and it would drive them, he would not say to quacks, but to persons who had not the same expert knowledge, and so the process of training would fall into hands far inferior to those which ought to be entrusted with it. He could only say, with regard to large institutions for idiots and imbeciles, that he believed it was the opinion of those responsible for those places, that it was not desirable that all those grades—idiots, imbeciles, feeble-minded, etc.—should be tarred with the same brush as lunatics, persons of unsound mind, and persons mentally infirm. It was not that those connected with the institutions he had named did not want to be under a central authority, but there was a certain objection, and a very natural one, to the use of terms which would give the guardians of such children the idea that they were at once to be merged into the mass of incurable lunatics.

Dr. CARSWELL (Glasgow) said it was very gratifying to find that the Report of the Commission on the Feeble-minded had not been taken up in a haphazard way by the British public, and that they had then proceeded to go to sleep over it. He was somewhat alarmed to hear Dr. Shuttleworth say he had taken the volumes of the Report to bed with him, as he feared that might be a portent of what might happen in reality. He had already begun to fear that the Report might be dealt with by the British legislature in that manner. It was, however, gratifying to hear Dr. Donkin bring the subject forward in the way he had. He trusted he might,

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without offence, ask the members of the Association really to apply their minds to a consideration of the question of the certification of the feeble-minded, because he regarded that as the crux of the whole question. It was a comparatively simple matter to get the British public to build an institution into which people could be put; one half of the public was willing to lock up the other half. The difficulty was to get expert medical and legal opinion to agree upon some basis of action for segregating persons of manifestly defective mind who required care and control, and could be placed under such care and control. He was not at all satisfied that the question which Dr. Donkin had raised in its practical bearing had been adequately considered at all. He thought the real reason was that there were so few of them engaged in the really practical position of having to decide what to do with people in the way of certification. Most of the members of the Association were more concerned to get rid of the people who had been planted upon them than to get any more in, and that made all the difference. He spoke feelingly on the matter, as he sometimes found, to his mortification, that a person whom he thought should properly be sent to an institution and detained there was, as promptly as decency would permit, discharged "recovered." Dr. Donkin alluded to the misapprehension which had existed and had been expressed as to the recommendation of the Royal Commission regarding the mentally defective inebriate. Personally, Dr. Carswell could not imagine anybody reading the Report of the Royal Commission and falling into the error to which Dr. Donkin had alluded. That there were a certain number of mentally defective or lunatic inebriates was, of course, the experience of all who had to do with any institutions for inebriates. He confessed, however, that the longer he considered the subject, and the closer to bed-rock facts one got, the fewer actually insane inebriates there seemed to be. He believed that Dr. Branthwaite, in his table as given by the Report, put the actual insane among inebriates as something like 17 *per cent.* He reached the total of 70 *per cent.* of more or less mentally defective persons by adding a second class of people partially defective. That left 30 *per cent.* who could not be called defective or insane in any sense at all. He did not propose to discuss that great problem, but he referred to it in order to allude to the first class, that which Dr. Branthwaite put at 17 *per cent.* He had seen a large number of those people, officially and otherwise, and he was bound to say that they fell into two classes; he spoke of those whom all who had had to do with inebriates would agree to call "mentally defective." The first class were those who suffered from delusions and other forms of paranoia, who had manifest degenerative insanity. To anyone accustomed to the recognition of insane states there never was any great difficulty in the certification of those people. But the other class was a group of persons who, he believed, ought properly to be considered lunatic, and of whose condition no adequate description appeared in the text-books—persons who periodically became excited, violent in their behaviour, morbidly suspicious, making false accusations about the persons under whose care they were, who became very explosive, dangerous, troublesome, who lied and were unreliable. At times the excitement of such persons almost equalled that of mania. He regarded those persons as lunatics, but the difficulty was that that class of person had never yet been properly described. Once they were described in the class text-books, he thought there would be no difficulty in certifying them also. The only difficulty was that they had intervals during which they acted apparently rationally, and at all times they were free from actual delusions. Therefore, with regard to inebriates who were mentally defective, he feared that the Board of Control, to whose care it was proposed to commit such people, would find that under any amended Lunacy Act, or Feeble-minded Act, they would not have the addition of any tangible number of persons from the class of inebriates. Reference had been made to the class of moral imbeciles who were mentally defective. He believed those were really the same persons as Dr. Donkin referred to later in his paper as the persons whom he met with in prison, who had been committed for long periods of imprisonment or to penal servitude, and whom he had no difficulty in classifying and saying they should be treated as mentally defectives. What were the characteristics of those persons? They had begun in early life by lying, by petty larcenies, by sleeping out at nights perhaps, or by wandering habits, by breaking all the traditions of home life, by what was called getting into bad company later on, by stealing and getting into gaol, and disregarding all the social conventions. It was not to be

wondered at that those people were called "lunatics" by the general practitioner; their whole life was marked by incorrigibility, by opposition to reasonable discipline. The futility of their views and their conduct marked them off as persons of unsound mind. And if the Royal Commission on the Care and Control of the Feeble-minded results in giving a method of certification whereby those people can be placed under prolonged if not permanent control, it will do a great service to the community. But he wished to ask Dr. Donkin precisely what he meant when he said "treating them as persons who were mentally defective." What treatment? Was it, after all, the same treatment as one would give to vicious people? Was it not discipline? Was there any possible suggestion of treating those people as one would treat lunatics—with a large measure of comfort, and as much freedom as their mental condition would allow? Was it possible to imagine treating those people who had such explosive tempers and rebellious dispositions, and who had no sense of social obligation, otherwise than by disciplinary methods. There was only one other point to which he desired to allude, that which had already been referred to by Dr. Donkin, Dr. Savage, and Dr. Shuttleworth. All alienists said how desirable it would be to segregate the feeble-minded early. He wished somebody would say how that was to be done. He had been engaged in certifying large numbers of feeble-minded children for special classes conducted by the Glasgow School Board, where there were 500 or 600 children. And as a result of that experience he said there was no difficulty about the future control, provided there was the machinery for controlling them; there was no difficulty from the point of view of certification, and the recognition of their mental defect of persons who, when still in school life, manifested that mental defect. The difficulty arose with another class altogether. He thought the difficulty was where the defect existed but did not show itself in school life; where the child could get tolerably well through school up to about the fourth standard, but could get no further, manifestations of backwardness then beginning to show themselves, namely, in adolescence and after puberty. That was the class in regard to which there was real difficulty, and he was not sure that that class of case had been in the minds of the Commissioners when they made their recommendations. He particularly wished to ask his colleagues who were engaged in mental practice to apply their minds to observing cases who had no such defect as would mark them off as defectives in early school life, but who at or before adolescence began to show proclivities which justified their inclusion as persons of feeble intellect. He believed the Royal Commission went as far as to say that the care of the defective child in special classes was simply custodial—a view with which he felt concurrence.

Dr. BOWER said he was in agreement with what every other speaker said about the service which Dr. Donkin had rendered by reading his present paper, and thus initiating the important discussion. He had read a good deal of the Report of the Commission. Possibly he was somewhat dense, but he had not been able to make up his mind what the Commissioners meant by adult mentally defective. So far as he knew, there was no definition of it in the Report. No doubt a definition of it could be arrived at by excluding the other headings, but he would be very glad indeed if Dr. Donkin would enlighten him on that point. Again, the title of Dr. Donkin's paper was the certification of mental defectives, and he had told the meeting how that was to be done. Would he kindly add to the service he had rendered by giving a specimen of a certificate for a mental defective—not a lunatic—filled in. If he would do that, it would at once give an idea of the class of persons the Commissioners intended to certify in that way.

Dr. DONKIN replied that "mental defective" was proposed explicitly in the Report as a comprehensive term to include every form of mental defect whatever. It was not a definition, and did not require a definition. With the best will in the world, he did not see his way to filling up a certificate as an example at that moment.

Dr. TURNER said he had hoped that Dr. Donkin's paper would perhaps deal more widely with the subject of the Royal Commission than just the subject of certification. Those present had heard what the inside idea of the Royal Commission was with regard to definitions, etc., and with regard to voluntary schools. But in regard to the latter, the Commissioners suggested that they should be continued in some way or other. He was the only representative present of the

voluntary institutions which provided for something like 2,000 cases, and the opinion of those in charge of those schools was that the recommendations of the Report would crush the voluntary schools out of existence. It might act as a bridge for a few years, but there was a strong feeling that extinction would be the ultimate result. He quite endorsed the point which Dr. Shuttleworth put so ably, namely, that the voluntary institutions did object to the definitions which the Commissioners had promulgated, and to the inclusion of all grades, from definite lunacy to feeble-mindedness, under the one term "mentally defective." He admitted that those having charge of backward children were dealing with only one branch of the subject, and therefore were probably biased on that side. But his view, and that of his colleagues, was that while lunatics might be regarded as persons mentally affected, feeble-minded folk were mentally defective. His belief was that "defective" had come to indicate the class of imbecile or feeble-minded. As Dr. Shuttleworth had ably pointed out, the term "feeble-minded" was brought in twenty years ago, and that "idiot" and "imbecile" were thought to be the only terms applicable. "Feeble-minded" had been brought in to meet persons' susceptibilities, and he supposed that twenty years hence there would have to be another Commission to take certain children out of the scope of the present Act.

Dr. WOLSELEY-LEWIS said that Dr. Donkin's interpretation of certification had been very instructive, but it seemed to him that there was one class of case which it did not help one in regard to, namely, the relapsing case. It was well known that in county asylums there were large numbers of cases which had to be discharged because their insanity appeared to have been cured, but which the alienist knew were likely to relapse, and he asked Dr. Donkin whether there was any method by which those cases—which were almost certain to relapse—could be permanently certified. Such people had intervals of such sound mental health that it was impossible to say at those times that they were of unsound mind. Yet it seemed practically certain that those people were going to break down again, and it was equally certain that if they went back to their families they would go on breeding degenerates and criminally insane, which it was the aim of the Commission to prevent. His own view was that after such cases had been in the asylum twice there should be some regulation by which they could be detained under permanent control. One of the recommendations of the Commissioners was that such persons should be kept under control, but he did not know how it was to be done. Perhaps Dr. Donkin would be good enough to say.

Dr. DIXON desired to ask Dr. Donkin with reference to the ordinary certificates for the admission of patients at present. He thought the first part of the certificate was generally considered to be the more important, namely, the facts observed by oneself at the time of the examination, the second part, consisting of facts communicated by others, being of secondary importance. Sometimes the latter part, he thought, was not filled up at all. He took it that it was the opposite state of affairs which would obtain in regard to the proposed certificate for the mentally defective, because he thought that, in that particular class of persons, there would be a great number of people of whom it would be most difficult, if not impossible, to find facts at the time of examination, and the certificate would probably almost altogether depend upon the facts communicated by others. He assumed, therefore, that the second part of the feeble-minded certificate would be the more important, and would be accepted as such.

Dr. DONKIN replied that it was intended to give plenty of scope and opportunity to anyone laying great stress on the facts communicated, and also to allow opportunity for observation to extend over several times, and not depend only on the one examination at which, or based upon which, the certificate was written.

The PRESIDENT said the certificate was one of the most important things which they could have to discuss. He supposed members knew—he had stated it often enough—his opinion that insanity was not a disorder of mind, and should not be so characterised. He thought the term "mentally defective" was really unsound; "unsound in mind," "mental infirmity," and so forth were misnomers. A certificate ought to certify that a person was disordered in his conduct, not in his mind; that was what really mattered, and that was why he had been put under control. What was in his mind did not matter a straw to the alienist; whether the mind was deluded or whether it was not. Their concern was with what he was and did and said, not with what he felt and thought, which were things they could only

infer. He believed that was the reason the cases referred to by Dr. Carswell were not certifiable. They were persons of ungovernable temper, and that was especially so among inebriates, who periodically burst out into fits of ungovernable fury and destructiveness, smashing and tearing, and being guilty of the grossest insubordination. He would prefer to call such insane on account of their tempers. If conduct was regarded as the criterion, and not mind, then those people were clearly certifiable, because their conduct was grossly disordered from time to time. He believed such people were certifiable, and that they could be certified under the present law, but he thought they would be much more easily certified if the certificate meant a certification of disorder of conduct, and not of disorder of mind. The Report of the Commission for the Care of the Feeble-minded was important in many respects, and in particular for its definition of certain terms which had been floating about in their minds, and had never received any specific definition. There was, for instance, the definition of "idiot." They all knew what, approximately, was meant by an idiot, namely, a person who held opinions on the fiscal question different from one's own. That was the common meaning of the term, but it was the meaning which could not very well be introduced into a certificate. Again, an imbecile was a person of the opposite political complexion to one's own. But in this Report those terms were, for the first time, defined with some approach to scientific accuracy, and on that account he thought the document was to be welcomed. It was impossible for him to go over all the points which had been raised that afternoon, and so summarise the debate; he would only refer to one or two of considerable importance. The first was that which had been referred to several times by other speakers, that of the difficulty of obtaining sufficient control over the life of the person who had been defective in childhood, but who was now of adult age, and who had merged from childhood into the dangerous age of life. At present the child who was of feeble mind could be kept under control until he was sixteen years of age, when puberty was complete. When the young woman was nubile she was turned into the streets, literally so in more senses than one. School could no longer control her, and in a short time she found herself in the maternity ward of the workhouse, to which she had recourse again and again to bring forth her illegitimate children. Those were the cases which legislation, on the grounds of this Report, would do away with for ever. At the same time he strongly believed that even under the present law such persons could be certified and were certified, and could be placed and kept in institutions, who were now suffered to remain at large, although it was well known that they were not fit to be at large. He thought that perhaps the very holding of the Commission, the fact that all the Commissioners in Lunacy had given evidence before it, and that they were conversant with its views, had produced a certain relaxation in the minds of the Commissioners in Lunacy concerning the former rigidity of the lunacy certificate. For instance, in regard to the morally imbecile, it had been hitherto regarded as an essential to the completion of a certificate in lunacy that the person should be intellectually insane; moral imbecility was not considered to be a ground for certification. Not long ago he sent a patient to an asylum under a certificate of moral imbecility. It was necessary to occupy with his certificate several pages of foolscap setting forth in full the career of that person. From an early age his career had been one of crime, of vice and of imposture, and attempts at suicide from the age of six to his thirty-sixth year. For thirty years he had been pursuing that criminal career, although he came of a family of very good position, and although his various brothers were doing well. He certified upon the facts which he embodied in his long report, facts communicated by others, that he was, in his opinion, of unsound mind, and a fit and proper person to be detained under care and treatment. He was received by the superintendent of the asylum, his certificates were passed by the Commissioners in Lunacy, and he was still under control. What would happen when that man came to be re-certified he did not know. But at any rate his unfortunate family would be free from his depredations for a whole year, and that was surely something gained. And he believed that in other cases, such as those of relapsing lunacy, which had been spoken of by Dr. Wolseley-Lewis, if the circumstances were fully set forth in the certificate the Commissioners would be found to be not unreasonable. Those gentlemen did not desire that the persons who were dangerous to the community should be set at large merely because there was some technical and verbal diffi-

culty in filling up the continuation order. He was sure that that was so, and undoubtedly many cases were liberated from lunatic asylums too soon, and many of those were liberated prematurely owing to the difficulty regarding the filling up of the continuation order satisfactorily. That difficulty arose in the minds of the certifying physicians, and did not exist in the minds of the Commissioners, upon whom would rest the refusal of the certificate. He did not speak officially on the matter; he had no official knowledge, he only went by his own experience. Where he had considered that it was not for the benefit of the patient nor for the public welfare that a patient should be set at large, then, although at the time he did not display any sign of insanity, he would put down in the certificate such reasons as convinced him and the Commissioners in Lunacy that that person should not be set at large. Then that certificate had been accepted, and that view and opinion had prevailed. If gentlemen in the specialty were to rely a little more upon their own opinions and give the Commissioners credit for desiring to act for the public welfare, and not on a narrow interpretation of certificates, they would not have the same difficulty in retaining in lunatic asylums persons whom they knew ought to be there, yet in retaining whom difficulty was experienced.

Dr. DONKIN, in reply, said he would adopt Dr. Mercier's reply to Dr. Wolseley-Lewis's question; he was about to answer to the same effect, but not so effectively or so comprehensively. The relapsing cases were those which occupied the minds of the Commissioners very much; they found it impossible to put those cases into a separate class, or to attempt to deal with them in the recommendations put forward in the Report. But it was hoped that with a slightly modified certificate, and attention being called to it, the Lunacy Commissioners, or the members of the Board of Control, or whatever it might in future be called, would act in the way in which Dr. Mercier with great confidence said they would. Still, it was in his own mind and in the minds of other Commissioners a difficulty, and it remained one still, one which he did not yet see a means of clearing away. There would always be a tendency for some reviser of the certificates, particularly legal members, to object, and to insist on the literal filling up of the certificate, and thereby emphasise the difficulty complained of. Dr. Shuttleworth had spoken about the judicial authority being abolished. It was only proposed to certify under the Procedure of the Idiots Act persons under twenty-one, *i.e.*, at any age up to twenty-one. Over twenty-one, with the exception of those who had been certified in their early childhood, they would be dealt with by the present existing method, by judicial authority. Several criticisms of the term "mentally defective" had been made. He could only say that that term was chosen after very considerable debate and thought, and he thought as much evidence was taken on that matter as could be taken. He thought it might be argued, and, indeed, it seemed to be the opinion of most, that "mentally defective" did not imply that the defect was congenital. Any form of insanity was surely a defect, and the only objection he had to the term "mentally defective" was the objection which the President made. It would be a good thing if the word "mental" could be left out, and people be judged by their conduct. But that could not be done until the whole country had been converted to this view. Therefore he feared the word must remain for the present, inaccurate though it be. It had been suggested by more than one speaker that the Commission were proposing the weakening or abolition of voluntary institutions; but he thought careful reading of the Report would show that the Commissioners welcomed voluntary institutions as an integral part of the scheme. The scheme would only be possible if voluntary institutions not only existed, but increased and abounded. It was said by certain people, long before the Commission sat, that it would be a death-blow to voluntary institutions, particularly those now called training-schools. But the Commissioners had made no recommendations to weaken or lessen in any way the work of asylums of any kind. The Report proposed the comprehensive term, because it was regarded as essential to have a comprehensive authority. And if there were one authority to deal with all mental defectives, there must be one name or term. With regard to notification and registration, he had not come fully prepared to deal with that; he had not read the Report through lately, but by notification was meant that it was extremely desirable to catch the mentally defective person when he was young, and that there must be some encouragement to compile lists of such. The idea was that those who knew about such cases should notify them to the local

authority, which authority should register them if they thought fit to do so. That could easily be done privately, and without causing offence and annoyance. But it was thought that even if it did cause offence here and there, the resultant evil would be much less than that of leaving them, as now, unrecognised, and therefore uncontrolled. One other question had been mentioned, namely, treatment. That was not meant by him in any medical or therapeutic sense, but simply the isolation of cases from the general community.

Clinical Notes and Cases.

A Case of Brain Tumour, and its Psychological Bearing. ⁽¹⁾ By DR. DRAPES.

THE case here recorded presents some features of interest, and although at first sight apparently of purely physiological and pathological import, is not altogether devoid of psychological bearings. As the case was under observation from the inception of the earliest symptoms up to its fatal termination, it possesses a certain quality of completeness not very often attainable in other than acute diseases.

W. C—, asylum attendant, æt. 47, about the middle of July last, 1904, when in the dayroom, felt for the first time a sensation in his right foot and leg as if it was asleep, but it lasted longer than usual, and travelled up leg to thigh, from there to right side of face, and finally to right hand, then went away.

A fortnight after he had a similar attack, and another in about a week; then it occurred twice or thrice a week, then once a day, then two or three times a day, increasing in frequency until by the second week in October he had from thirty to forty attacks in the day.

When fully established the first thing he felt was *a sensation of sickness* as if he was going to vomit, but lasting only for a second, then the "prodding"-like pins and needles was felt in the very *tips of fingers of right hand*, from that it went to *his toes* almost instantaneously, and *up his leg to thigh*, where it generally lingered longer than elsewhere, then up right side to *shoulder and arm*, and lastly to *right side of face*. Used to imagine that the right angle of his mouth was twitching, but did not think it was visible to anyone. He also noticed that when the sensation reached his lips he had *a difficulty in speaking*, so that once or twice he could not get out the words at all for a minute or so,

but as a rule he only had some difficulty in finding the correct word he wanted. The whole attack lasted about three minutes. No weakness of limbs followed; on the contrary, he felt distinctly better when it was over.

On October 17th, for the first time, at the close of the attack—"the finish off of it"—he had a *sensation of a horrible smell*, preceded by a "*queer slimy taste*" in his mouth extending down to larynx, only momentary, and along with this a *feeling of sickness*, but never vomited. When all was over had "any amount of wind" coming off his stomach, which he felt the better of. Could not describe the smell except as something very abominable, a mixture of vile smells such as he had never experienced before.

He has always had a weak stomach since an attack of influenza twelve years ago, and his tongue was nearly always dirty. Medicines had but little effect on this condition, and he had to be careful in his diet. Bowels were regular.

Some six years ago noticed *sight of right eye failing*, and now he can hardly see with it at all. Large capitals at headline of newspaper look like an indistinct smudge. Ophthalmoscopic examination revealed nothing beyond a somewhat greater vascularity of right disc as compared with left, the right being a decidedly pink colour, the left of the usual pearly hue. The edges of the disc were sharp and well-defined.

At this time he was employed looking after an electric plant in a mill about a mile and a half away from the asylum, and he used to work in the garden with some patients. On October 13th, when in the garden, he had what was evidently a *fit*. A labouring man who was standing beside him described the attack to me as follows: His eyes took a fixed stare at something in front of him, then he smiled as if he was amused at something, then he muttered something unintelligible, swaying over to one side as if about to fall when the man caught him in his arms and laid him on the ground. His limbs then "worked" a little, and he became unconscious, and remained so for about ten minutes, and was not himself for half an hour or so. I saw him about an hour later when he had quite recovered; he said he did not feel weakness anywhere, and, in fact, there were no sequelæ of the attack. This fit was a solitary instance of its kind, and there was no recurrence up to his death. The other attacks continued to occur frequently, and

with most of them the horrible smell. He was kept in bed for a day or two, and was brought back to the asylum on the 15th.

October 18th, 1904.—Has had a good many of the minor attacks both by night and day, and three or four of what he calls the "bigger" ones, *i. e.* those accompanied by the smell. One came on as he was talking to me. His speech became a little hesitating and uncertain, and there was a tendency to slurring of his words. When the attack was over he told me that he felt quite confused while it was going on, and did not know what he was saying (although he was talking quite sensibly to me), and that he thought that I was the priest.

A blister was applied over the left parietal region, and he was put on 10 gr. doses of potassium iodide and bromide in cinchona three times a day.

Almost immediately improvement took place. Within four days the attacks had reduced greatly in frequency, and were very slight in character. The minor attacks were felt in foot and leg and centre of lower lip, not at all in arm, and the smell experienced only very occasionally. On the 25th he expressed himself as feeling nearly as well as ever, but still had the tingling in foot and leg as far as knee and in the very extremity of the thumb.

November 7th.—Medicine changed to Fellows' syrup. Up to 17th he continued improving. No abnormal sensations in fingers or toes; the only place he felt them was, occasionally and very slightly in lower lip (both sides), behind right ear, and in right ham. Tongue was much cleaner, and he felt his health improved in every way, and went back to his work at the mill.

On November 18th and 19th he complained of feeling "very nervous," and he had a good many of the old attacks with some difficulty of speech—in one he "could not get out the words at all"; the sensation began about the right ham and lower part of the thigh, and travelled up the side and down the arm, and when the speech difficulty occurred he felt it in the face. Had the smell as before, and after the attack got a quantity of wind off.

Put back on the iodide and bromide mixture.

In three days he had again got much better, the feeling of nervousness had nearly gone, and the attacks had greatly

reduced in number. On the 21st he had five in all, and they were very slight.

November 22nd.—Had only two mild attacks last night. First had a feeling of nervousness or weakness, then the smell, and then the sensation in right ham, not exactly pins and needles now, he says, but more as if he had one leg crossed over the other for too long (probably a kind of numbness). Feels no abnormal sensation now in any other region, except that sometimes in lower third of right forearm he feels a kind of disability which he cannot exactly describe; says the power is there all right, and he can always use it for any required purpose, but he feels something different from what it used to be under normal circumstances. Is aware of a difficulty of speaking at times, says a different word from what he intended, though not irrelevant to the subject, and often corrects himself. There is a decided slurring of his articulation, the words do not come out with as much sharpness and distinctness as formerly.

On November 28th he came back to the asylum on account of a rather bad cold, and was put on ammonia, morphia, and ipecac. mixture, stopping the iodide. The attacks began to come back in greater frequency in a couple of days, and his speech got decidedly worse. By December 4th it was difficult to understand a good deal of what he said, or attempted to say, there being both aphasia and defect in articulation. For past week or so he had *dragged the right foot slightly in walking*; when bringing it forwards it strikes the ground.

December 4th.—For first time complained of *headache*, just where blister was applied in right parietal region. Speech very indistinct, so that when his wife came to see him he could hardly utter a word, and made signs to another attendant to tell her how he was. *Mind becoming affected*; was very depressed at times, and said he would like to put an end to himself. Two or three times previous to this he had said he was afraid to shave himself, or take the razor in his hand, for fear he might do something to himself with it. Complaining greatly of feeling of weakness; not taking much food. Pulse slow, 62, regular, of fair strength. To resume iodide mixture.

For next two days the headache continued to come at intervals, and he often put his hand suddenly to his head saying, "Oh, my God, my God." On the 7th he was fairly free

from it, but was no better in other respects, and took hardly any nourishment; seems to have quite a repugnance to food, and his tongue is very coated. His sensation is normal, and he feels the lightest touch on the skin of his limbs. Plantar reflexes active, if anything rather exaggerated. Can write only with great difficulty, and the letters are ill-formed, which is partly due to weakness and clumsiness of right hand, partly to agraphia, which accompanies the aphasic defect. Can read fairly well, but slowly, and sometimes pronounces a word wrongly, or is unable to say it until after repeated efforts. Right hand is decidedly paretic, as well as right leg, and left half of lips moves much more perceptibly in speaking than right. Hearing about the same on both sides.

Some considerable time after these notes were written I came upon a memorandum made two years previously in November, 1902, when I had evidently examined his eyes, to this effect. Vision in left eye nearly normal; a slight amount of myopia, scarcely one dioptré; R.V. = 0, and no glass improves. Optic disc clear and normal looking.

The diagnosis made was of an irritative lesion, probably tumour, in left fronto-parietal region, and on December 9th the patient was sent to Sir Patrick Dun's Hospital under the care of Sir Charles Ball, who kept him under observation till the 22nd—date of operation. During the interval he had got steadily worse. His speech had become absolutely unintelligible, but he appeared to comprehend anything that was said to him. Some albumen was found in the urine, and his breath was very foetid. He had vomited once or twice, but otherwise Sir C. Ball said he had not much evidence of intracranial pressure. Right optic disc showed a little blurring. Blood tension not increased.

Operation on January 22nd. A full-sized trephine opening was made over the lower part of the left Rolandic area, and extended anteriorly with cutting forceps, so that the whole of the lower part of the frontal lobe and the upper part of the temporo-sphenoidal were accessible to palpation, but with a negative result, the dura mater appearing quite healthy, and there was no bulging of the brain, and nothing to warrant further exploration. The wound was accordingly closed, and death supervened three days afterwards. Sir C. Ball was kind enough to send me the following note: "I do not think there

are any points about the operation of importance, except the markedly *flaccid* condition of the brain, and the absence of any surface indications that a considerable tumour was so close. And although the entire lower frontal and upper temporal-sphenoidal regions were palpated, no increased resistance suggesting the presence of a tumour was to be felt. The cause of death was gangrene of the lung from inhalation pneumonia."

The results of *post-mortem* examination were kindly supplied by Dr. T. H. Gibbon in the following memorandum:

"The right kidney showed signs of advanced tubercular disease. It was small and full of small tubercular abscesses. The left kidney was very large to compensate for the loss of the right. The right ureter was very thick, evidently tubercular, but the bladder and other genito-urinary organs were quite normal. The heart, spleen, etc., were quite normal, the liver slightly fatty. The left lung just showed some signs of hypostatic congestion, evidently coming on near the end. The right lung the same, but the lower lobe on this side was consolidated and evidently septic, a septic pneumonia probably due to inhalation, and also to the fact that he lay on this side nearly all the time after the operation. The larynx and back of the nose were normal. The stomach and intestines showed no change. The right side of the brain over the vertex showed thickening of the arachnoid, and some lymph in the sub-arachnoid space, I think evidently early signs of tubercular meningitis; none, however, present over the base or left side. Right under the trephine opening and fairly deep was a tubercular mass, the exact extent of this I did not make out as Sir C. wished to show the specimen." The parts were subsequently handed over to Dr. O'Sullivan, Professor of Pathology, T.C.D., for detailed pathological examination, who has kindly favoured me with his memorandum on the results, which is as follows:

"The tumour lies in the left cerebral hemisphere, occupying about the middle third of the hemisphere antero-posteriorly; in length it is 6.5 cm. Its upper surface runs parallel to the upper surface of the hemisphere at a depth of 3 cm. below it. On its outer side it is from 8 to 12 mm. from the outer surface of the brain, bulging somewhat in the middle.

"In vertical section from before backwards it begins as a small circular area above and to the left of the genu of the corpus callosum. Running backwards it increases rapidly,

enlarging downwards and inwards, and involving the island of Reil, claustrum, external capsule, and outer part of the lenticular nucleus.

“Further back it descends into the temporo-sphenoidal lobe, involving the white matter of that lobe and the amygdaloid nucleus. At the level, antero-posteriorly, of the corpus mamillare it approaches within a centimetre of the uncus, but nowhere comes nearer to it than this.

“Further back it becomes rapidly smaller on cross section ending at a point above and behind the anterior border of the pons.

“The left hemisphere is much increased in size where the tumour is growing, and the parts can generally be made out distorted and compressed rather than penetrated by the growth.

“Microscopically, in the portions examined, it begins gradually, apparently by an increase in the neuroglia cells, and becomes more and more cellular in the interior. The cells are very various in size and shape, giant cells being numerous. The stroma between the cells consists of very fine fibrils staining like neuroglia fibres with Van Gieson's stain.

“The blood-vessels are numerous and well formed, with strong connective-tissue coats, and appear independent of the tumour. There are numerous hæmorrhages into the substance of the tumour, and the central parts are somewhat necrotic.

“The anterior part and the upper surface appear, microscopically, to be marked off by a capsule of compressed brain tissue; the lower and posterior parts appear more infiltrating in character, and are much softer in consistence. These portions are indicated in the diagrams by dotted areas.”

As regards the clinical aspect of the case generally, it is remarkable that with such extensive tubercular disease at an advanced stage in the right kidney, there were absolutely no symptoms, local or general, pointing to such a serious morbid condition. Up to the time that the brain symptoms proper began to manifest themselves, and for some time after, the man was in good condition, of good colour, and would have been pronounced of robust build by any observer.

Another curious feature is the solitary fit which occurred about the middle period of the illness. Why it should have thus occurred, and never recurred, is a circumstance not easy to explain.

With respect to the special nervous symptoms, these, up to a comparatively advanced stage of the illness, were almost exclusively of sensory character, and presented a striking uniformity both in the area affected and in the order in which they appeared in each individual attack, the starting-point being invariably the extremities of the fingers and toes, and advancing with more or less leisurely progression up the right leg, thigh, and side, to the shoulder, down the arm, and lastly to the face. At this stage, in fact, it might not inappropriately be called a case of sensory, or chiefly sensory, Jacksonian epilepsy, the only motor disability recognisable as associated with the early sensory symptoms being the slight hesitation in speech, hardly noticeable by others, although he was conscious of it himself from the first. In the later stage of the illness, that is, for some three or four weeks before he died, this symptom became very pronounced, until finally his attempts at articulation became absolutely unintelligible; he, however, appeared to understand readily anything that was said to him, even up to the date of operation. The aphasia, properly so called, was associated with a certain amount of articulatory paresis, as shown by the indistinctness and slurring character of his speech, the clumsy "coarse-movement" action of the tongue muscles in their efforts to frame the words being quite apparent, the fine delicate movements requisite for smooth and perfect articulation being abolished. A similar condition was noticeable with respect to his writing, there being not merely a certain degree of agraphia, but also a distinct impairment of the finer movements of the hand and arm concerned in writing. The paresis of the right leg was very obvious towards the close of the case, and of the right half of the lips. The olfactory and gustatory paræsthesiæ were well marked, especially the former; and the failure of vision, dating as far back as several years ago, would seem to indicate that the tumour started in some part of the frontal region adjacent to the path of the optic nerve or tract. Looked at in the aggregate, the symptoms were presumptive of a more or less extensive lesion implicating, by pressure or otherwise, several groups of centres, or the fibres connected with them, *viz.*, the sensory or kinæsthetic centres of the limbs and tongue in the left Rolandic area, or subjacent fibres, along with the optic, olfactory, and possibly gustatory tracts, on their way to their centres in the convolutions.

From a psychological point of view this case may not at first sight seem to possess any special interest, particularly to those who are able, or think they are able, to draw a dividing line between physiological and psychological functions. But surely, in the light of modern research, it can hardly be seriously contended that psychical functions are not essentially physiological in character, and that between phenomena which are regarded as purely physiological and those which are considered to be purely psychical there is a borderland common to both, in which they merge into and blend with each other inseparably. Consciousness would seem to be the distinctive quality of mental action. But consciousness is only a relative term, and exists in all degrees, from a mere twilight glimmer of sensory awareness up to the full noontide brilliancy of the highest and most perfect cerebral action. Where can a dividing line be discovered? Who shall say where the rubicon is crossed? Reflex action is unaccompanied by consciousness, and therefore cannot be called mental action in the generally accepted meaning of the term. Sensori-motor action is accompanied by consciousness, and must be regarded as mental, although brought about by a precisely similar mechanism. What is called "common sensation" is a mental act, although I am not quite sure that this is universally admitted. But if consciousness is accepted as the characteristic attribute of mental action—and if it is not it is useless to attempt to predicate anything on the subject whatever—any part of its content must be placed in the same category. We acquire perceptions of objects by means of impressions on our special sense organs, and perception is assuredly a mental act. But perceptions and the sensations which produce them are practically simultaneous, and we cannot separate one from the other. In the case before us we have an instance of a coarse cerebral lesion producing a mixed aggregate of symptoms, partly physiological, partly psychical. The first effect of the tumour was, probably by the merely mechanical influence of pressure, to cause blindness—that is, abolition of the physiological function of vision. Later, probably by exercising an irritative action, perversion of three other of the special senses—touch, taste, and smell—occurred, and these paræsthesiæ were accompanied by consciousness, even vivid consciousness; consequently they must be regarded as mental symptoms. The paretic phenomena, on the other

hand, of the limbs and speech must be regarded as physiological disabilities, while the aphasia and agraphia, so far at least as they were amnesic in character, must be classed as psychical defects.

Cases such as this may justly be cited in support of the contention that there is no essential distinction between the psychical and physiological functions of the cerebral centres, and that consciousness is to be regarded as the outcome, frequent but not invariable, of the functioning of the highest cerebral centres, and under certain conditions. But it is just this aspect of consciousness in which some very eminent authorities decline to acquiesce. The theory which seems to find most favour with British psychologists, who are, as a rule, conservative in their opinions, is the theory of parallelism or concomitance. They hesitate to allow that consciousness may be the direct result of activities of cerebral nerve centres, and those who venture to hold that view are apt to be stigmatised as champions of materialism. This doctrine of parallelism has always appeared to me as a sort of compromise, almost a subterfuge, on the part of those who shrink from parting company with the old metaphysical theory of dualism. That an immaterial essence such as mind or consciousness should be "got out of" mere material substances or processes seems to them inconceivable. Is it really so? Mind, looked at from one standpoint, is an abstraction, denoting the aggregate of all psychical phenomena; from another it may be regarded as the highest, most complex, most subtle force in Nature. It is quite analogous to the force, the abstraction, which we call electricity, or, indeed, to any of the other forces of Nature. Formerly, not so much now, electricity used to be called a "fluid," nowadays a current, both metaphorical terms based on the supposed resemblance of the passage of electricity along a wire to the flow of fluid through a pipe. That such terms, however, really correspond to actual facts is the merest conjecture. We know nothing of what electricity is in essence, just as we know nothing of what mind and consciousness are in essence. Electricity is just as intangible, just as immaterial as mind, and yet do we feel it to be a straining of language, a departure from truth, to say that electricity—this immaterial force—is produced by, is "got out of" the material elements of a galvanic cell, or from the rotation of material magnets round

a core of material soft iron? No one hesitates to do so. And to maintain that it is inconceivable that what is immaterial should be procurable from material elements seems to be absolutely at variance with what we see occurring every day around us. The old dualistic theory is at least intelligible and coherent, a theory which is best expressed in Milton's words when he speaks of—

"The immortal mind which hath forsook
Her mansion in this fleshy nook."

That is the idea of an immanent, immaterial, independent entity, "working through" the body as an operator working a machine. The more modern monistic theory is also intelligible and coherent, that consciousness or mind is the product of cerebral action on its highest evolutionary level. But the doctrine of parallelism, which is safe in so far that it commits itself to nothing, also teaches nothing. Although it may seem to have a positive quality about it, it is really purely negative in character. There is a certain imposing resonance in the terms "parallelism" and "concomitance," but when they are examined critically they will be found to be rather of the nature of "sounding brass or a tinkling cymbal." Parallel lines are such as, according to Euclid, if produced to infinity will never meet. Can this be said with truth of mind and matter; do they never meet? Is there not the most intimate connection between them, so intimate that we know nothing of one without the other, each—so far as our present state of knowledge teaches us—being absolutely essential to the existence of the other? All the teaching of modern research into the functions of the nervous system on the one hand, and into psychological phenomena on the other, is in the direction of establishing the conviction that mental action is the highest evolutionary phase of nervous function, which has gradually and very slowly developed out of lower levels, and will probably continue to develop and evolve into still higher levels as the ages advance. That at some stage of this process of evolution of nerve function some outside influence or entity should suddenly intervene, and operate in quite a different method, is not in accordance with our biological knowledge and experience. *Natura non facit saltum*. Gradation, not cataclysm, is the order of the universe.

(¹) Read at a meeting of the Irish Division of the Medico-Psychological Association, held at Palmerston Asylum on May 9th, 1905.

Four Cases of Intracranial Tumour with Mental Symptoms. By R. M. MARSHALL, M.D.Glasg. (late Pathologist, Woodilee Asylum); Senior Assistant Physician, Gartnavel, Glasgow.

THIS paper is an attempt to answer certain questions that have been raised by four cases of intracranial tumour which were studied at the bedside and subsequently followed out in the laboratory. In the clinical course of all four the mental symptoms were the most striking facts, and indeed only one (Case 3) presented other evidence of intracranial mischief. In considering cases of mental disease which exhibit gross cerebral disease, we can just as easily minimise as exaggerate the part the lesion plays in the production of the mental symptoms. The only safeguard is to think anatomically. As yet our knowledge of the finer structure of the brain is very imperfect, but the work of Fleschig has given us a general idea of the architecture of the brain; and it is in the light of those anatomical facts that we seek to investigate our cases.

As the cases are in themselves of considerable interest I have thought it advisable to give fairly complete reports.

CASE 1.—A. B—, a clerk, æt. 50, was admitted to Woodilee Asylum on December 7th, 1906.

He was well-built and well-nourished, but looked more than his age. The sclerotics were congested. The tongue was slightly furred. The temperature was normal. A high-tension pulse numbered 72 beats per minute. His gait was good. The pupils were equal and their reflexes normal. The knee-jerks were slightly exaggerated. No ankle-clonus was elicited, and both plantar reflexes were normal. No sensory disturbances were discovered. The other systems were free from gross lesion.

The alienation was characterised by rapid mental failure. Although no definite history of the onset could be obtained it was said to be of only a few weeks' duration. On admission he answered questions quite rationally, but in conversation showed considerable mental confusion, and had fantastical delusions, such as, "that his legs were made of glass." The confusion gradually became more profound and his reaction time very slow. For hours he would sit listlessly with his head on his chest. It was difficult to arouse him and he immediately lapsed back into his stuporose state. The stupor gradually became more profound and he began to pass his motions under him. Pulmonary congestion intervened, and he died April 22nd, 1907.

An examination was conducted fourteen hours after death.

The skull cap had average characteristics. The dura was normal,

but it bound the frontal lobes to the whole extent of the superior aspect of the small wing of the sphenoid. The convolutions were flattened and appeared dry and glazed. There was a fair quantity of fluid in both cisternæ. The pia was not adherent to the cortex. On the under-surface of the brain the longitudinal fissure was obliterated by a tumour which penetrated into the substance of both frontal lobes. As the greater bulk of the tumour was buried in the frontal lobes the visible portion was encircled by a rim of brain tissue which could be easily stripped from it. There were no traces of the olfactory bulbs or tracts, but the optic tracts, the circle of Willis and the knee of the corpus callosum were intact. The cranial nerves were normal. The frontal lobes were flattened, and especially in the right prefrontal region the convolutions were distorted and wasted. Both ascending frontal convolutions and the adjacent portions of the frontal convolutions were, however, fairly plump.

Although the tumour actually penetrated into the substance of the frontal lobes it appeared to do so by displacement and pressure atrophy and not by replacement of the brain tissue. The involvement of the lobes was wide rather than deep, but on the right side it reached as high as the medulla of the prefrontal lobe. The new tissue was sharply demarcated from the brain tissue, had a firm consistence and a structure like glandular tissue.

There was no thinning of the grey matter except in the neighbourhood of the growth. The vascular channels of the white matter were dilated. The fifth ventricle was greatly dilated and the lateral ventricles moderately dilated.

The basal nuclei and ponto-bulb were normal.

The heart was of average size with its left ventricle contracted. It displayed very healthy features.

The right lung was very emphysematous and showed marked engorgement. The left lung was also emphysematous. Its lower lobe appeared bulky. There was general engorgement, and in the lower lobe marked œdema.

The liver and spleen were very adherent to the diaphragm.

The kidneys had numerous cysts. Their capsules were adherent and their cortices thin.

The bowels, pancreas and adrenals were normal.

Microscopic examination: Tumour.—Although sharply defined from the brain tissue, which was condensed and rich in blood-vessels, the tumour had no capsule. It was rich in cells, which were arranged in whorls. At the periphery of a whorl the cells were roughly spindle-shaped and their elongated swollen nuclei stained faintly. At the centre of the whorl the cells, which were epithelioid in character, were massed together. As a rule the cell protoplasm was scanty and ill-defined, while the nucleus was round, swollen and faintly stained; but all variations from this to the spindle-cells were encountered. At the centre of some whorls there were hyaline bodies which were of a roughly oval shape, and contained several distorted nuclei concentrically arranged. The new tissue was well supplied with imperfectly formed blood-vessels that had undergone hyaline degeneration at an early period.

Cerebrum.—There was a poor sub-pial felting. The nuclei of the molecular layer were judged to be numerically increased, but it contained few fibres. At its periphery some spider-cells with thick processes were met with. The peri-vascular spaces were dilated. Some arterioles showed hyaline degeneration. The nerve-cells, which were situated in dilated peri-cellular spaces, were of good shape, had well differentiated processes and showed moderate chromatolysis. Their nuclei were centrally placed and stained well; a few showed vacuolation.

Cerebellum.—A very slight peri-vascular gliosis of the white matter was the only abnormal feature met with in cerebellar sections.

CASE 2.—M. P—, a hawker, æt. 34, first came under observation on November 13th, 1901. Neither a family nor a personal history was obtained, but the patient's circumstances were known to be poor and her habits irregular.

She suffered from a left-sided hemiplegia and showed the characteristic gait. The left facial muscles, especially those of the lower segments, were paresed. The tongue was protruded in the middle line. The mental condition of the patient made an investigation of a questionable internal strabismus of the left eye impossible. The left upper limb, which showed a typical contracture of the forearm and hand, was profoundly paresed; its muscle showed very marked myotatic irritability. The left lower limb was slightly paresed. There was no paresis of the right limbs.

The special senses, so far as they could be investigated, appeared normal.

The pupils were unequal; the left, which was the larger, was not circular. The right pupillary reflexes were active. The left pupil was immobile. The fundi had healthy appearances.

A general impairment of sensation, which was fairly profound in the case of the upper limb, was noted on the left side.

The muscles of the left hand were wasted, but although those of the arm and forearm were flabby, no wasting was noted in them.

Both knee-jerks were exaggerated.

An imperfect ankle clonus was obtained in the left lower limb.

Babinski's sign was sometimes elicited from the left foot.

The heart was not enlarged to percussion. There was a soft, limited murmur at the apex. The second sound was reduplicated.

The chest, owing to a lateral curvature of the spine, was of poor shape. The lungs were, however, healthy.

The digestive and renal systems appeared healthy.

She was discharged on July 21st, 1902. During her residence she showed marked mental confusion and was quite incoherent. She could not give a satisfactory account of herself and appeared to have vague delusions of impending danger. Her memory for recent events was very defective.

The patient was re-admitted on August 14th, 1904. She was stuporose, and when aroused appeared incapable of any mental receptivity. Occasionally she became restless, tried to get out of bed, picked at the bed-clothes and kept muttering to herself. When questioned she appeared to hear the voice, but, to judge from her behaviour, failed to grasp its meaning.

Her vital processes were all depressed. The temperature was subnormal. The extremities were cold and at times cyanosed. The pulse, which averaged ninety-two beats per minute, was irregular in force and rhythm, and of very poor quality. Sordes covered the teeth. The tongue was dry, cracked, and covered by a brown fur. There was a corneal ulcer on the left eyeball. A trace of albumen, some pus and a few equivocal tube-casts were noted in the urine.

On August 24th, 1904, she had a rigor, and on August 29th, 1904, died from broncho-pneumonia.

A *post mortem* was conducted twenty-six hours after death.

The skull-cap and base had normal characteristics. The dura was slightly congested. The pia was thickened in the region of the right Rolandic area, but was readily stripped from the cortex cerebri. The left cerebral hemisphere was larger than the right. The right ascending frontal and parietal convolutions and the adjacent convolutions were wasted. The other cerebral convolutions had a plump appearance.

In making transverse slices of the brain, the tumour was first discovered in one passing through the junction of the middle and lower thirds of fissure of Rolando. At this level the tumour was mainly confined to the white matter and was not sharply defined from the normal tissue; as it showed a tendency to spread into the white rays of the convolutions, the distribution of the new growth was most erratic. The anterior third of the corpus callosum was invaded, and at a point one inch behind the genu the whole breadth of the structure was affected. The neighbouring grey matter, with the exception of the two lips of the fissure of Rolando, was unaffected. The tumour tissue was of a dull grey colour, and had a worm-eaten appearance. There were numerous cysts. In a section passing through the middle of the insula the thickened semi-gelatinous pia-arachnoid was seen filling the sulci and fissures of the brain. The grey matter was relatively more affected. The tumour was very vascular; some of the vessels were of astonishing calibre. There was no general atrophy of the grey matter.

No macroscopic lesions were discovered in the basal ganglia, ponto-bulb or cord.

The heart was large: the cavities on both sides were distended with *ante-mortem* clot. The aortic valve was slightly incompetent. The mitral cusps were thickened and covered with warty vegetations; the orifice was judged to be contracted.

The aorta was atheromatous. At one place there was a dimpled appearance, as if of a commencing aneurysm.

There were numerous areas of consolidation in the right lung; these areas had a dull grey colour, and from their bronchioles pus was extruded.

The apex of the left lung was adherent. There was nothing to note in its parenchyma beyond marked congestion.

The liver was enlarged, and showed marked nutmeg colouration. The gall-bladder was distended with fluid bile.

The capsules of both kidneys were easily stripped off. Their cortices were somewhat atrophied.

Microscopic examination: The pia arachnoid.—The cellular elements

were greatly increased. The fibrous matrix was notably hypertrophied, and here and there some coarser fibres were noted. Many of the vessels, which were present in great numbers, had very imperfect walls. In the thickened areas these changes were exaggerated.

The tumour.—At the edge of the tumour long processes were seen meandering into the normal brain tissue. In the immediate neighbourhood of the processes there was a marked proliferation of the glial nuclei. The processes consisted of an intimate neuroglial felting rich in nuclei; numerous large spider-cells were encountered in them. When established, the tumour tissue showed a very dense neuroglial network with pseudo-cysts of various size. For about three-fourths of their circumference, the walls of the pseudo-cysts were well-defined and exhibited a very condensed network; the remaining fourth was ill-defined, not differing in texture from the tumour tissue. There was an abundant vascular supply; the walls of the vessels were in good condition.

The cerebrum.—The grey matter in the neighbourhood of the tumour was the seat of marked changes. There was a well-marked sub-pial felting. The molecular layer was moderately sclerosed. The vessels were tortuous, and showed hyaline change. At various points small hæmorrhages were noted; in one instance the process was quite recent; in the others a reactive proliferation of the neuroglia had occurred. The small pyramidal cells were represented by nuclei surrounded by the faintest trace of protoplasm; in some it tapered into an apical process. Some of the nuclei had a granular appearance. The large pyramidal cells were of similar appearance.

The rest of the grey matter showed no increase of the glia-cells. The vessels were in every way healthy, but some pigment granules were seen in the perivascular spaces. The nerve-cells were of good shape; the large pyramids showed a moderate degree of chromatolysis.

CASE 3.—J. H—, a carter, æt. 33, was admitted to Woodilee Asylum on August 16th, 1900.

There was nothing noteworthy in the family history.

Twelve years ago, and again six years ago, he had rheumatic fever. He was unmarried, and intemperate in his habits.

About the end of July, 1900, he attempted to drown himself in the Clyde, declaring he was an unpardonable sinner.

On the following day he was admitted in a state of profound depression. He refused to give any information about himself, and was so resistive that it took four men to undress him. He was fairly well nourished. His tongue was coated and his breath was very foul. The pupils were equal and responded to light and accommodation. There were no motor or sensory disturbances. The superficial and deep reflexes were normal. The pulse numbered 78 beats per minute, and the temperature was normal. No evidence of organic lesion was discovered in the cardiac, respiratory, or renal systems.

During the next month he remained in a state of profound stupor; he had to be forcibly fed; he passed his urine and fæces in bed. He occasionally became restless and had to be watched; once he flung himself into the fireplace, bruising his face.

On October 1st, 1900, he was noted to be taking his food and to be more cheerful.

For the next year there was little change in the patient's condition. He was usually found with his head bowed on his chest. He seldom spoke. On several occasions he was sent out to work, but was said to be of little use.

On September 16th, 1905, he was reported to have had a shock—no paresis detected—and thereafter became suddenly and wildly excited. He remained in this state for two or three days and then relapsed into his stupor. Since then he has had several seizures with no resulting paresis. The pupil reflexes were normal. The fundi oculi showed no change. No localising symptoms were ever noted. During the last months of life he lay, as a rule, absolutely still in bed in a stupid state, and lost flesh rapidly. After another seizure—March 20th, 1906—he became still more stuporose, and died on March 28th, 1906.

A *post-mortem* examination was conducted thirteen hours after death. The body was emaciated. There was a punched-out ulcer below the left external malleolus. No enlarged glands or scars were detected.

The skull-cap was of average size; the density was increased in parts and the vascular channels were of average depth. The dura was of average thickness and rather anæmic; it was slightly adherent to the cap, but markedly so to the posterior part of the left cerebellar fossa. At this situation it was also adherent to the left cerebellar hemisphere. The subdural space was dry. The cerebral convolutions had a fairly plump appearance. At the angle formed by the posterior border of the left cerebellar hemisphere with the incisura posterior cerebelli, a nodule about the size of a pigeon's egg was buried in the substance of the hemisphere. On the superior aspect of the hemisphere it occupied an area about the size of a shilling, and to this surface the tentorium was firmly adherent. It was of stony consistence, and on section was found to consist of a mass of calcareous material surrounded by a tough fibrous capsule. A fibrous cord was all that remained of the left vein of Galen. The basal vessels were healthy. There was considerable dilatation of the lateral ventricles, and their choroid plexus showed cystic degeneration. Several punctiform hæmorrhages were noted in the right internal capsule. The basal ganglia and ponto-bulb presented healthy appearances.

Beyond a moderate degree of fatty change in the cardiac muscle, there was nothing to note about the condition of the heart.

The right lung was markedly adherent to the chest wall. It weighed twenty-three and a quarter ounces and was greatly engorged. An irregularly wedge-shaped area of consolidation was situated at the anterior margin of the lower lobe; the cut surface showed patches of caseous necrosis. The bronchial glands were enlarged and were the seat of caseous necrosis.

The left lung was œdematous and congested.

The liver was large and very adherent to the diaphragm; it showed a moderate degree of fatty change.

The spleen was large and its pulp soft.

The kidney, supra-renals, pancreas and bowels showed no gross changes.

Microscopic examination: the tumour.—There was a well-defined capsule of coarse fibrous tissue with few cellular elements. The

contents of the capsule had undergone calcareous change. In the neighbourhood of the new growth there was a well-marked gliosis of the cerebellar tissue. At no point was a cellular infiltration encountered.

The cerebrum.—There was a slight subpial felting. No spider-cells were encountered. The molecular layer was free from neuroglial fibres. The vessels occupied slightly dilated spaces, but their walls were normal. The nerve-cells were of good shape; their nuclei were well stained, and no disintegration of the tigroid substance was noted.

CASE 4.—C. L—, female, æt. 33, a hair-mattress maker, was admitted to Woodilee Asylum on January 22nd, 1906.

Beyond the fact that her father died of consumption at the age of thirty-five there was nothing of importance in the family history. This was the first attack of alienation. She had always been in good health, in poor circumstances, and given to alcoholic excess. A week before admission she gave up work for no apparent reason. During the next three days she was quiet and absorbed; at night she kept talking to herself, as if she were praying. After this she became steadily excited; she saw and talked with imaginary people.

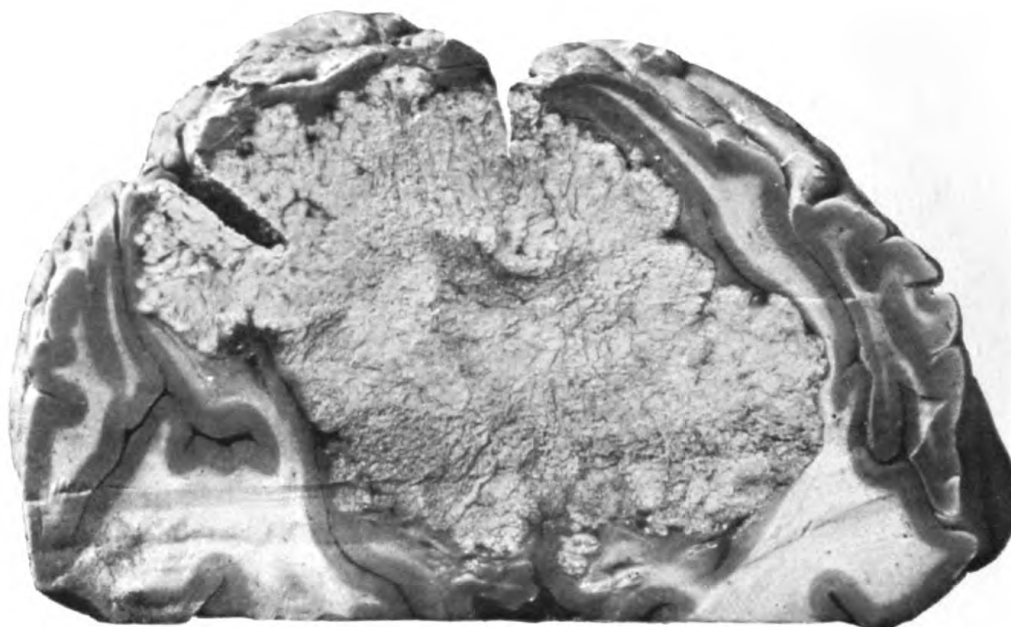
During her residence the patient was in a condition of great psychomotor excitement. The striking feature of the clinical picture was the extent to which her hallucinations appeared to predominate the mental symptom complex. She kept storming and raging at persons, who, to judge from her inconsequent utterances, were threatening her with violence. Occasionally the hallucinations were of a more pleasant nature and she developed a rollicking good humour. At first she mistook the identity of those about her, but soon became able to recognise them. She was very alert in noticing ward incidents and built them into her harangues. She answered questions irrationally. At first she complained of headache, later on it became more persistent and more severe. Owing to her excited condition the physical examination was imperfect. No evidence of gross lesion was discovered.

On April 30th, 1906, she suddenly complained of gastric uneasiness and of severe pain in her head; she sat down on a chair, and before the doctor arrived expired.

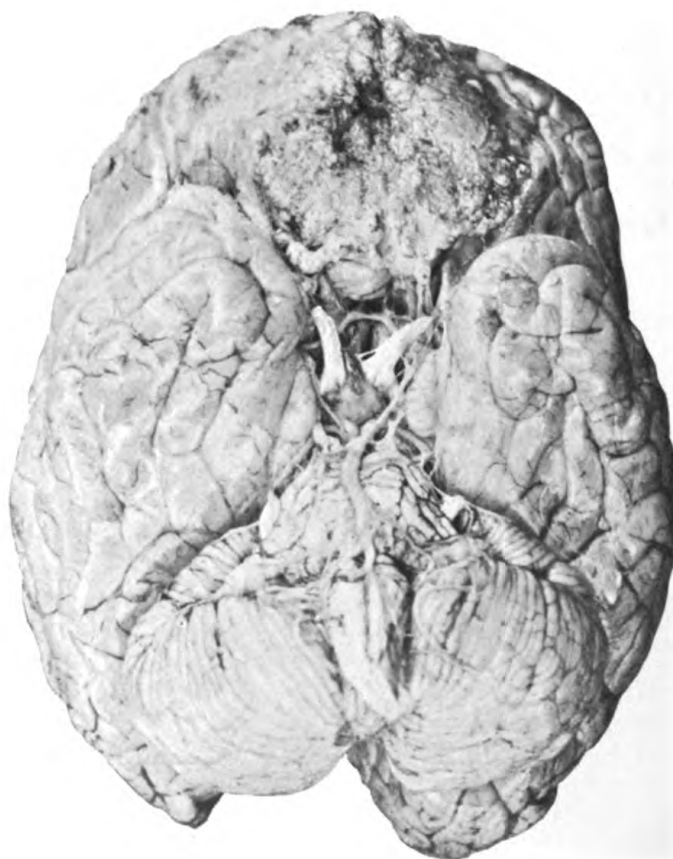
A *post-mortem* examination was conducted twelve hours after death. The body was well-nourished. On the inner aspect of the upper third of the leg there was a cicatrix about the size of a five-shilling piece. There were no enlarged glands or nodes.

The skull-cap was of average size, thickness and density; it was anæmic. The dura was unduly adherent. The skull base was symmetrical.

Over the right temporal lobe the membranes were bound to the cortex cerebri by a neoplasm. The area of attachment was limited in front by the posterior lip of the Sylvian fissure, and it extended backwards almost to the longitudinal fissure; its upper margin formed an angle of 110° with the posterior limb of the fissure of Sylvius, and its lower margin corresponded with the sulcus temporalis inferior. In the immediate neighbourhood of this area the dura was thickened and hyperæmic. Thrombosis had occurred in the superior longitudinal and right sigmoid sinuses. The basal vessels appeared



CASE 1.



CASE 1.

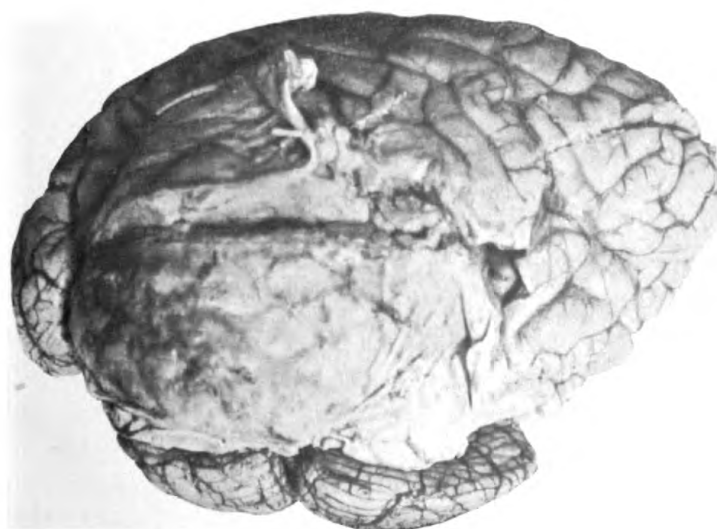
To illustrate Dr. R. M. Marshall's paper.



CASE 2.



CASE 4.



CASE 4.

healthy. The two cerebral hemispheres were equal, and had a dry, glazed appearance. The convolutions were flattened, the sulci were shallow. When examined in transverse section the neoplasm was found to have extended mostly along the cortical surface, to which it had bound the pia arachnoid, and the dura. At its centre the tumour had penetrated to a slight extent into the white matter. Here the periphery was not clearly defined; areas of normal brain tissue were interspersed with areas of infiltration. The tumour tissue, as a whole, was firm and of healthy appearance, but here and there minute areas of softening were present. There was no dilatation of the lateral ventricles. The third ventricle contained a mass about the size of a pea; it lay between the layers of the choroid plexus, had a hyaline appearance and a cartilaginous consistence. No macroscopic changes were discovered in the basal ganglia or ponto-bulb.

The left ventricle of the heart was contracted. The cavities of the right side were distended with clot. No organic lesion was found.

The lungs were healthy.

The liver was of good size and consistence.

No morbid changes were detected in the kidneys, adrenals, pancreas or bowels.

Microscopic examination: the tumour.—The tumour had obviously originated in the membranes. It was impossible to differentiate the pia from the dura: they were replaced by a broad band of fibrous tissue rich in cellular elements. The involvement of the cortex cerebri was very erratic. The first change was a round-cell infiltration; the cells were massed together, and little more than their nuclei could be seen. Around these areas the brain tissue was disintegrating, but the neuroglial stain showed the presence of spider-cells in the *débris*. Two changes affected the cellular elements of the new growth: a proliferation of fibrous tissue, or a fatty infiltration of their scanty protoplasmic bodies. Vessels of large calibre and imperfect walls were encountered; the capillary system was very imperfect. No tubercle bacilli were noted.

The cerebrum.—The capillaries were moderately injected. The arterioles exhibited slight hyaline change. The peri-vascular spaces were dilated. A very imperfect sub-pial felting was present. The molecular layer was thinned, but free from fibres. The small pyramids were fairly normal in appearance; the large pyramids show marked disintegration of the tigroid substance.

Remarks.

In Cases 1, 2 and 3 the mental symptoms are identical—mental confusion with transient delusions passing more or less rapidly into profound stupor. These are given in our neurological text-books as the classical mental symptoms of brain tumour, and are attributed to increased intracranial pressure. But the association in cases of cerebral tumour of these mental symptoms with *post-mortem* evidence of increased intracranial

pressure is far from constant, and the present tendency is rather to emphasise their frequent association with tumours of the frontal lobes. Great diversity of opinion exists, however, regarding the facts of this association. Gianelli holds that the more the mental symptoms—torpor, intellectual arrest, weakness of memory—are manifested at the beginning of the illness, the more likelihood there is that the neoplasm is situated in the prefrontal lobes. Mills thinks that the only region of the brain in which focal lesions have produced persistent psychic symptoms has been the frontal lobe, and that mental symptoms are more frequently produced by lesions of the right prefrontal lobe; but Phelps asserts that the more positive and distinct the symptoms of mental defect are, the more absolutely is the tumour limited to the left prefrontal region. Raymond emphasises the fact of penetration of the cerebral substance, and affirms that a neoplasm of the frontal lobe seldom remains latent when it penetrates, even very slightly, into the cerebral substance. Beevor, as far as we know the only author who has separated extra-medullary from intra-medullary tumours, finds that mental symptoms are more common in the latter class and are most marked when both lobes are affected.

In only one of our three cases (Case 1) did the tumour involve the frontal lobe, and this corresponds with the finding of other observers. Beevor correlates these mental symptoms with tumour of the centrum ovale. Case 2 is an example of this. Putnam and Williams, who have investigated all recorded cases of tumour of the corpus callosum, consider that the only symptoms attributable to this class of tumour are mental—mental failure, stupor, and sometimes hallucinatory delirium. Mott and Barratt record three cases of tumour of the third ventricle, which, by blocking the foramina of Monro or the aqueduct, prevented the escape of fluid from the lateral ventricles and produced a condition of internal hydrocephalus. They comment on the somnolent condition, the intellectual failure, the semi-comatose and even comatose condition of their patients. Case 3 offers a striking parallel to these cases.

Any attempt, therefore, to correlate such a clinical picture with tumours of the prefrontal or frontal lobes ends in confusion; an attempt which undoubtedly arises from the current anxiety to invest the prefrontal lobe with attributes which exist only in the terminology of the psychologist. The prefrontal lobes,

considered ontogenetically, are terminal cerebral zones; they are the anterior nodal points of long association fibres which join the frontal association centres with the posterior association centres. These fibres run backward in the tapetum, which is usually described as a part of the corpus callosum, although many observers hold that it is quite independent of that body. Now, any lesion which affects the integrity of this association scheme, isolates the frontal association centres from the posterior association centres. This isolation will be more or less complete in prefrontal tumours, bilateral intra-medullary tumours, tumours of the centrum ovale and tumours of the corpus callosum. But, as we have seen, the mental symptom-complexes which Mills, Phelps and Gianelli correlate with tumours of the prefrontal lobes, Beevor with bilateral intra-medullary frontal tumours and tumours of the centrum ovale, and Putnam and Williams with tumours of the corpus callosum, are identical—slow or rapid mental failure ending in dementia, torpor or stupor. It then appears that tumours which isolate the frontal from the posterior association centres present a constant clinical picture.

In Cases 1 and 2 this association scheme has been obviously affected, but in Case 3 we cannot show an anatomical destruction of its integrity. A moment's reflection, however, on the mechanism of dilatation of the lateral ventricles will convince us that the structures which form their walls—the basal ganglia, the fornix, the corpus callosum, and the tapetum—must bear the brunt of the distending force. The long association fibres will therefore be early subjected to pressure. Now, the effect of pressure on nerve-fibres varies, according to the degree of pressure, from impairment to complete loss of their power of transmitting nerve impulses. But any interference with the transmission of nerve impulses along those association fibres amounts to an isolation of the frontal from the posterior association centres. As we have seen, this finds a clinical expression in slow or rapid mental failure ending in coma or stupor.

It then appears that the degree of intra-cranial pressure is not of so great consideration in the production of stuporose mental states as the method in which this force implicates the brain. Thus a considerable rise of intracranial pressure, so long as it spends itself on the cortex generally, may be unaccompanied by any degree of stupor, but if it expends itself

directly on the long association fibres there is some degree of stupor. As in our case (Case 3), the usual *post-mortem* signs of increased intracranial pressure may be slight or even wanting.

The following case, reported by Nicoll, illustrates our contention so perfectly that we quote it at some length: "Acute symptoms of intracranial pressure—severe and constant frontal headache, giddiness and vomiting, deepening stupor—developed in a man three months after a head injury. The brain was explored in both frontal regions, but the dura presented no bulging, and pulsated normally. No gross lesion was found. Eleven days later the temporo-sphenoidal lobe was explored. The dura was found bulging and pulseless. A considerable quantity of fluid was evacuated from the lateral ventricles. A subsequent negative exploration of the cerebellum and the occipital lobe for the source of the dilatation was made. The patient recovered, and was well a year after." Here we find dilatation of the ventricles giving rise to symptoms of increased intracranial pressure in the absence of the usual evidences of increased intracranial pressure.

Case 4 stands in marked contrast to the above cases: the clinical picture is one of psycho-motor excitement, with hallucinations of sight and hearing; the *post-mortem* facts are an irritative lesion involving the right audito-sensory and audito-psychic areas, and general compression of the grey matter.

As there is a fundamental affinity between hallucinations and mnemonic images, and as the areas which harbour the neuronic systems underlying the mnemonic images of hearing and sight are obviously affected by the neoplasm, it is only natural to connect the hallucinations with the site of the irritative lesion.

The possibility of a gross lesion originating, as a focal symptom, insane hallucinations or illusions has been questioned by Mills: "I do not know of an instance in which a gross lesion, isolated to a physiological centre or area of the cerebral cortex, or extending only to a limited extent beyond such area or centre in one otherwise possessing a normal brain, has caused an insane hallucination"; further, he holds that in cerebral syphilis when a gumma or multiple gummata are found on necropsy the possibility of hallucinations and illusions being focal is more apparent than real; they find their true explanation in diffuse pathological processes or in the toxæmia

which often plays so important a part in the symptomatology of the disease.

But such distinctions are too nice. Although the fact of their analysis and correction is a clinical touchstone for sane hallucinations and illusions, yet the same morbid process is responsible for the production of the sane and insane varieties as far as their elaboration in the areas of which they are judged to be focal symptoms. The insanity of such phenomena depends on their effect on the personality; in many instances we may find a pathological basis for this effect in diffuse morbid changes or a toxæmia, but we cannot disregard the fact that in themselves they constitute a serious form of "mental stress," and, as the researches of Mondio suggest, may produce apathy or psycho-motor excitement.

To sum up: The situation of a tumour relative to the great association schema, which Fleschig has shown exists in the brain, determines to a great extent the incidence of mental symptoms in its clinical course. Any tumour which isolates the frontal from the posterior association centres produces stupor and varying degrees of dementia. An irritative lesion of these association centres, on the other hand, may produce a perversion of their function. In the case of the posterior association centres this results in hallucinations, and in the case of the frontal association centres, in those perversions of the idea of personality described by Welt, Durante, Jastrowitz and others.

Conjugal General Paralysis. By COLIN McDOWALL, M.D., M.R.C.S., Assistant Medical Officer, County Asylum, Warwick.

THE following three cases of conjugal general paralysis are recorded, not that they present any remarkable features singly, but that collectively they afford further evidence of the close relation of this disease to syphilis.

(1) H. McE—, æt. 42, rivetter, married fourteen years. For six months before admission had been drinking heavily. His father was a drunkard. Patient had been out of work on account of bad trade for two years. Mental symptoms were noticed eighteen months before admission. He was listless, childish and apathetic. On admission,

dirty and demented ; he could not answer the simplest questions. He has had several seizures, and is at present confined to bed in a paralysed condition. He contracted syphilis from his wife, but it has been found impossible to fix the exact date of this occurrence.

M. McE—, æt. 32, formerly a barmaid. Mother and cousin are insane. Patient had no children, but several miscarriages. A woman of loose character, she was of drunken habits and associated after marriage with other men. Contracted syphilis and infected her husband. Signs of mental derangement commenced six months before admission. Physical signs were well marked and characteristic of the disease. Mentally she was childish, and on interrogation she, although paralysed, always replied "champion." She rapidly deteriorated, and after several congestive attacks died at the end of three months. The *post-mortem* presented cerebral atrophy, with marked cortical erosions and a thickened pia. There were no signs of cicatricial tissue in the liver or spleen, but the endocardium covering the base of the aorta was roughened.

(2) J. R. H—, æt. 48, butcher, a successful business man, in his prosperity gave way to drink ; the business gradually left him and he suffered from worry and want. He contracted syphilis and infected his wife. On admission he was ataxic, had a slurring speech and fixed, unequal pupils. Mentally, he was at the commencement of the disease noisy, excitable and restless ; he became gradually stupid and dull and died quite demented, his illness having lasted just over three years. *Post-mortem* showed typical changes ; opacity of pia with excess of fluid, marked cerebral atrophy, dilated lateral ventricles and a granular fourth ventricle. No cicatrices were formed, but the base of the aorta was roughened. Tubercle was present in the lungs.

S. J. H—, æt. 45. A widow when she married the subject of the previous paragraph. She had to her first husband one healthy son and no miscarriages. Her second husband infected her with syphilis at an early date, and she had repeated miscarriages but no children. She was a perfectly steady woman and nursed her husband during the commencement of his illness, and frequently visited him after his admission to the asylum. She was reduced to very poor circumstances, and the initial symptom in her case was an attack of acute excitement. She was subsequently certified, and presented the characteristic signs of general paralysis, tremors of the tongue, lips and hands, unequal fixed pupils and slurring speech. Her mental condition following the acute stage was one of increasing dementia. She had several congestive attacks and spent months in bed recuperating. She died after the disease had been in progress a little over five years.

Post mortem changes showed cerebral wasting with adherent pia, granulations of the fourth ventricle with dilated lateral ventricles. No cicatrices were found in the glandular organs. Aortic endocardium was roughened. The lungs were tubercular.

(3) J. T. B—, æt. 48, musician. Married for twenty-five years. He was a very unsteady man, neglected his work and was constantly out of employment. His wife lived apart from him after a few years of married life, but they came together again and he infected her with syphilis ; the exact date is, however, unknown.

The history regarding the onset of his illness is defective. On admission he was an advanced general paralytic, boastful and with a defective memory. Physical signs were distinctive, and epileptiform convulsions terminated his life after eight months' detention in the asylum.

The *post-mortem* revealed a marked condition of pachymeningitis hæmorrhagica. The cerebral convolutions were atrophied and the cortex eroded. The lateral and fourth ventricles showed granular ependymata. No cicatrices were found in the internal organs, but there was evidence of aortitis.

D. E. B—, æt. 49. She had an unhappy married life, no children, but several miscarriages. She engaged in the baking trade after leaving her husband, but the business was not a success and she became insane. She ultimately recovered sufficiently to be discharged, but relapsed and was admitted into Newcastle City Asylum suffering from delusions; she said she was the King of Copenhagen's daughter and was expecting royal visitors. Her mental condition at the present time is one of elevation. She says she is the Queen, and signs her name as that personage. Her speech is incoherent and her answers irrelevant. The physical signs present are tremulous tongue and lips, a hesitating speech, and unequal pupils with reflex iridoplegia.

These three examples of general paralysis occurring in husband and wife present points of interest and certain points in common. Conjugal general paralysis is by no means rare, but the recorded cases are comparatively few. A possible explanation of the apparent rarity of the disease is that the patients are frequently a roving, unsettled class, ending their lives in different asylums, and they are often so demented on admission that no reliance can be placed on their statements.

The most striking feature in the six individual examples of the disease under discussion is syphilis. There is most definite evidence of specific infection in each case. Twice the husband has conveyed the disease to his wife, and once he has contracted it from her. There does not appear to be any definite period after infection at which the signs of mental disturbance show themselves. Those first inoculated do not necessarily show the first signs of nervous degeneration. Kéraval and Olaviact published five cases of conjugal general paralysis in which a variety of causal factors were brought forward. Syphilis could only be ascertained with certainty in one case. *Post-mortem*, it is rare to find in general paralysis gross evidence of syphilis. However, a very suggestive, if not absolutely convincing, piece of evidence is a roughened endocardium over the base of the aorta. This was present in every one of the present

series of cases which died. Cicatrices were in no instance discovered in the liver or spleen. Mott has demonstrated what an important rôle stress plays in the production of general paralysis. In each of the six cases under discussion stress as a causal factor is clearly in evidence. Alcohol is also a prominent feature in four instances, but I am inclined to regard intemperance as an agent in the production of "stress," and, as in Case 1 in the man, a symptom in the commencement of the illness rather than a cause.

Not only is the stress a mental state, but it also is a physical condition. In Case 2 and in the instance of the woman in the third example there was, following the mental worry, a lack of suitable and regular nourishment. It might be suggested that the remissions so frequently seen in general paralysis when under systematic treatment are in the same way due to irregular habits and food.

I hesitate to enlarge further upon a matter so frequently discussed, but Kraft-Ebing has shown by the application of the law of acquired immunity that a general paralytic is immune from syphilis. Although all persons who have contracted syphilis do not develop general paralysis, we know that it is a neuro-toxic element of great potency. Many individuals escape its later manifestations. Just as in diphtheria, paralysis is a comparatively rare sequela, the selective circumstances of which are at present unknown.

This small series of cases has been recorded merely to add to the already enormous amount of evidence supporting the statement that syphilis is essential in the production of general paralysis.

An Unusual Method of Suicide. By GUY ROWLAND EAST, Assistant Medical Officer, Northumberland County Asylum.

A PITMAN, æt. 55, was admitted to this Asylum at 8 p.m. on May 31st, 1908, with the following history: In the afternoon of the same day he filled his mouth with gunpowder and ignited it, with the intention of blowing off his head. The patient had been subject to periodical attacks of depression, and the scar of a cutaneous incision on the front of the neck

revealed a former attempt at suicide by cutting the throat with a razor. He had always been a heavy drinker. He was first seen at 5 p.m. by Dr. Swayne, of Bedlington, who, on being summoned to the police station, found the patient almost asphyxiated owing to rapid swelling and closure of the glottis. He at once opened the trachea and inserted a tube. The patient, quickly rallying, was sufficiently improved in an hour or so to be removed to the Asylum.

Condition on admission.—The lips were intensely swollen and scorched, the swelling of the tongue so marked as to almost fill the mouth, the soft palate so much inflamed and œdematous that the fauces were obscured. The buccal mucous membrane was charred, in parts being destroyed and presenting raw, bleeding patches; there was marked increase in the flow of saliva, which ran freely from the mouth; the respiration was embarrassed; he had orthopnoea, and was much troubled with severe bouts of coughing and expectoration of frothy, blood-stained mucus from the tracheotomy tube. Respirations 30 per minute; pulse 88, of good tension; temperature normal. Mentally he was mildly excited and restless, but indicated by signs that he understood what was said to him.

Prognosis.—He slept little during the night, but in the morning his condition was apparently improved, the respirations being easier, 20–24 per minute, no cough, and the tracheotomy tube clear and satisfactory, the swelling of the mouth sufficiently reduced to enable him to swallow small quantities of milk. In the evening he became somewhat flushed and perspired freely. His temperature ran up to 102° F., pulse 96, respirations 26. Though the respiratory sounds were entirely obscured by harsh tracheal breathing, he was evidently suffering from pneumonia.

Result.—Further description of the case need not be detailed; he became progressively worse and died eighty-six hours after his attempted suicide.

Autopsy.—At the post-mortem examination the mouth revealed extensive superficial ulceration of the buccal mucus membrane, together with numerous greyish patches on the tongue, soft palate and fauces, showing a tendency to slough. The mucous membrane extending on either side of the epiglottis, both to the root of the tongue and backwards to the arytenoid cartilages, was swollen and œdematous. The lining membrane of the trachea and bronchi was markedly hyperæmic, and covered throughout with a copious muco-purulent exudation. Both lungs were solid, airless, and friable, presenting the typical appearance of red hepatitis. The right lung weighed 42 oz. and left 42 oz. The organs generally were congested and the blood was semi-fluid and dark in colour, as is usually seen in persons dying of sapræmia.

Recent Medico-Legal Cases.

REPORTED BY DR. MERCIER.

[The Editors request that members will oblige by sending full newspaper reports of all cases of interest as published by the local press at the time of the assizes.]

REX v. WILKINSON.

GEORGE Arthur Wilkinson, æt. 27, labourer, was indicted for the murder of Evelyn Annie Buddle, æt. 8, at Bury St. Edmunds on October 17th.

On the evening of October 14th prisoner took Blanche, the eldest sister of the deceased, to whom he was engaged, and by whom he had had a child, to various places of entertainment, and had a good deal of drink. He passed the night on a sofa in the house occupied by the family of the deceased. At seven the next morning prisoner went out for a drink. He returned in ten minutes, had tea and went out again; returned, had breakfast, and went out again. Returned at ten, when he was calm, and not under the influence of drink. He gave a second sister of deceased, May, æt. 15, a halfpenny, and told her to go and get chocolates. He then called Eva to come downstairs, which she did. He struck her four very violent blows on the head with a poker, of which she shortly after died. He then ran upstairs with the poker in his hand, and threatened Blanche with it, saying, "I have killed little Eva, and I will do ——" Blanche wrested the poker from him without difficulty and ran downstairs. He ran after her, caught her by the arm, and said, "This is the last; if ever you have another man, be true." Then to May, who had returned, he said; "Be quiet, I am going to give myself up." He went to the police station, smoking a cigarette, and said unconcernedly, "I wish to give myself up for murder. I have killed Eva Buddle, of 7, Maynewater Lane, so there you are." After being cautioned, he again said, "I have done it, so there you are." A few minutes after he said: "I always hated her, I have killed her, so there you are. I don't wish to say any more now." He was calm and sober. He appeared to the police like a man who had been drinking heavily overnight. Shortly afterwards he said: "Give

me something to lay my poor old head on, for I believe I am in the rats" (delirium tremens). He then dozed off.

It appeared from the evidence that prisoner was not addicted to drink. He had been known to be drunk only twice in two years. He had always been kind to and appeared fond of the deceased girl, and used to bring her sweets. Blanche Buddle had seen him many times in "peculiar attacks." He would stagger from side to side and seem not to know where he was going. The attack would last for half an hour or more, and would occur three or four times a month. In one of these attacks he had taken a razor to his throat, but she took the razor away from him. After this attack he went into a deep sleep. Prisoner's father spoke to seeing prisoner "strange" on several occasions. One day witness found the table overturned, ornaments broken, prisoner's watch broken and thrown into the fire. It appeared prisoner had done all this for no reason whatever. On another occasion prisoner suddenly came into the room and struck witness with his fist without the slightest reason. A fellow soldier of prisoner's spoke to having seen him "twizzle round," as though in a fit, and twitch at the mouth.

During the trial, prisoner, who had been seated, half raised himself and with a cry fell down in the dock in what appeared to be a fit. He quickly recovered. He had had a similar attack whilst at exercise in prison.

Dr. C. Scott-Kilner attended prisoner in his attack in the dock, and would say it was an epileptic seizure. Dr. Longworth, of Suffolk Asylum, who also attended prisoner in the dock, was not prepared to swear that it was or was not an epileptic seizure. Dr. Fryer, the prison surgeon, believed it was an epileptic seizure.

Evidence of the nature of epilepsy and of epileptic automatism was given by these witnesses and by Dr. Stork, M.O.H. for Bury St. Edmunds.

Mr. Justice Lawrence said the whole question was, was the act done when the prisoner was in a state of unconsciousness caused by epilepsy, or done whilst he knew what he was doing, as in his own words, "I have killed her, I always hated her," and "I have done it; I cannot say any more." Verdict: Guilty, but not responsible for his actions at the time.

Dr. Longworth, who is kind enough to supply a detailed

report of the trial, expresses considerable doubt as to the nature of the case, though he does not quarrel with the verdict. He doubts whether the act was done in epileptic automatism, or whether it was not an attack of alcoholic mania.

To my mind, the evidence of Blanche Buddle and of the prisoner's father are conclusive that the prisoner had suffered from epilepsy, and I see no reason to doubt the account he gave Dr. Longworth, who was not allowed, however, to repeat it in court, that he had no recollection of calling for the child, and returned to consciousness to find himself standing over her with the poker in his hand, and realised there and then what he had done, is substantially true. My reading of the case is that the prisoner suffered from *petit mal*, with post-epileptic automatic acts, which followed the rule of such acts in being uniformly tinged with the same character—that of violence; that these acts had, as such acts often have, a high degree of elaboration; that the return to consciousness was, as is usual, gradual, and therefore a considerable time after he realised his surroundings he was more or less dazed, and spoke and acted with imperfect appreciation of what he saw and did. He went upstairs after the murder and threatened with the poker the sister Blanche Buddle, but he was very easily put off his purpose, if he had a purpose. The curious form of his utterance at the police station scarcely received the attention it merited: "I have killed her, so there you are"; "I have done it, so there you are"; "I have always hated her, so there you are." The tag "so there you are" is inconsequent, irrational, and has just the mark and quality of an automatic "stock-utterance." The two attacks subsequent to arrest, one in prison and the other in court, were considered doubtfully epileptic by the medical men who witnessed them. To my judgment they were not epileptic at all. They did not resemble in the least the previous undoubted epileptic attacks, of which he had had many, all of the same character. None of the medical witnesses who saw the attack in the dock would say positively that it was epileptic. It is true that some epileptics have attacks of *haut mal* interspersed among attacks of *petit mal*, but the prisoner had never before had an attack of *haut mal*, and in these attacks his recovery was very rapid, far more so than is ever seen after an attack of *haut mal*. There was no perceptible spasm, there was no

stertor, no prolonged unconsciousness, no subsequent confusion, no sleep, though after the minor attacks there was prolonged confusion and sleep. My view is that the prisoner, knowing the crime was committed in epilepsy, knowing the defence would be to this effect, determined to give it verisimilitude by shamming, as well as he knew how, attacks of epilepsy while under observation. In common with most non-medical persons, he supposed an epileptic fit meant a cry and a fall, so he cried out and threw himself down.

Dr. Longworth suggests that the crime was committed in an attack of alcoholic mania. I do not think the evidence supports this view. The only evidence that gives it countenance is that of the police, who said that when the prisoner gave himself up he was like a man who had been drinking the night before. By this was meant that he appeared slightly dazed, a condition compatible with a previous attack of *petit mal*. The prisoner was not a drinking man. He had drunk pretty freely the night before, but he had slept well since, and was therefore not suffering from *delirium tremens*, and there was no evidence of drinking beyond the one evening. Moreover, the drinking cuts both ways, for a drinking bout is very liable to bring on a fit in an epileptic.

There is one other possible explanation. The crime may have been committed in an attack of *epilepsie larvée*. But the evidence does not bear this out. The crime was brutal and unprovoked; but it had not the character of atrocious and outrageous savagery that is usual in *epilepsie larvée*. And there is no need to invoke this explanation, since the tendency in all his post-epileptic attacks was to violence. On the whole the verdict seems right, and given on right grounds—that the crime was committed during post-epileptic automatism.

INQUEST.

In the Westminster Coroner's Court on Saturday Mr. John Troutbeck held an inquest on the bodies of John Tempest Dawson, æt. 70, of independent means, and Nannie Caskie Dawson, æt. 58, his wife, lately of Brunswick Place, Hove, and recently staying at Morley's Hotel, Trafalgar Square.

Mr. H. G. Muskett said that Mr. Dawson had consulted his firm since 1902. On four or five occasions before 1907 Mr. Dawson consulted him with reference to his persecution by an individual. The persecution, he said, had been going on since 1902, and he laid before

the witness a number of papers and documents in order that he might form his own opinion. The witness advised him that he saw no ground for the belief, and suggested that his case was one for a medical man. The witness made inquiries, and was unable to find any proof of what Mr. Dawson believed, but his obsession as to the persecution seemed to grow worse every time he saw him. At no time during any of their interviews did Mr. Dawson threaten his life, but on the morning of February 24th the witness received by the same post three letters. He did not desire to go into their contents, but in one of them, most of which was in typewriting, Mr. Dawson said: "I cannot go on living; the life is too terrible. Friend after friend has dropped me—several intimate ones during the last three months." The witness said that so far as he knew it was untrue that Mr. Dawson's friends were cutting him. He had even resigned the membership of his club because he thought the person whom he believed to be persecuting him had joined the club. He did not mention his wife in the letters.

The Coroner said there was a lengthy and incoherent document left by Mr. Dawson, in which were these words: "I am taking my wife with me to save her from it all. If I have not the courage, God help her and my two poor children."

Mr. Muskett, continuing, said that he believed Mr. Dawson did consult a doctor. On all other subjects he was perfectly rational, and a cultured and educated gentleman.

Sub-Divisional Inspector Landon deposed to searching Mr. Dawson's clothing and finding £34 odd in bank notes and money, a sealed letter addressed to the Coroner, and a second letter in an envelope with no address. The revolver, which was defective, was loaded in three chambers and contained two empty cartridges.

Medical evidence showed that Mrs. Dawson must have had her back turned to her husband when he shot her.

The Coroner, in summing up, said it was evident that Mr. Dawson believed he was being persecuted by an individual who was trying to destroy his reputation, and that all his friends were cutting him. There was, however, no foundation for the belief. The letter in which he said, "I may take my wife with me," certainly suggested that he thought his condition was being made intolerable and that he proposed to kill his wife. Such a form of mania often ended in suicide, and although it was not sufficient for the purpose of the Lunacy Acts under which they could shut a man up, his delusions were certainly of the kind of which they frequently heard in that Court.

The foreman of the jury asked whether they could have the name of the person who was supposed to be persecuting Mr. Dawson, but the Coroner declined, pointing out that their duty was not to inquire into the statements made by other people, but to find the cause of death and the state of the man's mind.

The jury found that John Tempest Dawson wilfully murdered his wife, and afterwards committed suicide while insane.

This case, at first blush, appears to be a case of paranoia. It is common enough for paranoia to lead directly to homicide,

and, though unusual, it is not very rare for it to lead to suicide; but for paranoia to prompt to what may be termed protective or benevolent homicide—the homicide that seeks, by the murder of the victim, to save him or her from worse evils—is extremely rare, and I know of no instance on record. Such protective homicide is frequent enough, of course, and few months pass without instances being recorded of husbands killing their wives, or parents their children, from this motive. But the agent in such homicides is always a melancholiac. In the present case the evidence seems to point to paranoia. The unfortunate suicide had declared that since 1902 he had been the victim of persecution by a certain person, whom he named, who was trying to destroy his reputation. His friends were dropping away, and his acquaintances were cutting him. Delusions of persecution of a certain kind are common enough, of course, in cases of melancholia, but the clear difference between paranoia and melancholia is that in the first the persecution is felt to be unjust and unmerited, is resented, and arouses feelings of anger and resentment, while in the second the persecution is usually believed to be merited by the wickedness or crime of the persecuted sufferer. It is not very uncommon, indeed, for the melancholiac to profess his innocence, and to wonder why he is so persecuted, why he is to be so cruelly punished; but it is extremely rare in melancholia, while not infrequent in paranoia, for the persecution to be ascribed to a specified person.

If I followed the example of those to whom novelty, of foreign origin, is a special attraction, I should call the case one of *melancholia paranoides*; I should discover that some new motor symptom or feature was characteristic of the disease—that there was something peculiar in the attitude and tremor of the hand when the patient placed his thumb to his nose and spread his fingers out, or that he was in the habit of jerking his right thumb over his left shoulder, at the same time ejaculating a sound resembling “Walker!”—and many of my *confrères* would tumble over one another in eagerness to laurate me as the discoverer of a new form of insanity. But I am content to merely place on record a case of melancholia in which there is a close approach to the systematisation of delusion of persecution.

COURT OF CRIMINAL APPEAL.

(Before Mr. Justice Darling, Mr. Justice Walton, and
Mr. Justice Pickford.)

REX *v.* MEAD.

Drunkenness—Murder.

This was an appeal against a conviction for wilful murder at Leeds Assizes before Mr. Justice Coleridge, the ground of appeal being that the learned Judge had misdirected the jury in summing up the case to them. The appellant was not present at the hearing of the appeal.

Mr. J. W. Jardine appeared for the appellant, and Mr. Bruce Williamson for the Crown.

The appellant, Thomas Mead, after a quarrel with the deceased, Clara Howell, a woman with whom he had been living for seven years, had killed her with a blow of his fist, after brutally beating her with a broom-handle, having previously said he would give her a good hiding. There was evidence that at the time the appellant was drunk; and the defence raised on his behalf was that he was therefore incapable of forming the intent to do grievous bodily harm or to kill which was necessary to constitute the crime of murder, and that consequently he was guilty of manslaughter only. The jury convicted him of murder. He appealed to this Court on the ground that in his summing up the learned Judge had used words which would lead the jury to suppose that they must either find that he was guilty of murder or, if they were to bring in a verdict of manslaughter, that he was incapable of forming the above intent because he was insane or in a state resembling insanity at the time, the proper alternatives to be left to them being, it was contended, murder or incapacity to so intend in fact. The words used by the learned Judge were as follows: "In the first place, every one is presumed to know the consequences of his acts. If he be insane, that knowledge is not presumed. Insanity is not pleaded here, but where it is part of the essence of a crime that a motive, a particular motive, shall exist in the mind of the man who does the act, the law declares this—that if the mind at that time is so obscure by drink, if the reason is dethroned and the man is incapable therefore of forming that intent, it justifies the reduction of the charge from murder to manslaughter."

Mr. Jardine, for the appellant, contended that these words would be understood by the jury as meaning that they must find that the appellant was mad with drink to justify a verdict of manslaughter. It would be sufficient if they found that owing to his being drunk he could not in fact form an intent. "*Reg. v. Doody*" (6 Cox's *Criminal Cases* 463).

Mr. Justice Darling referred to "*Rex v. Grindley*" (not reported), cited in 1 *Russell on Crimes*, p. 144, in which it was held that the fact of intoxication was a matter properly to be considered in determining whether an act was premeditated or not.

Mr. Jardine contended that that was good law, and that the case of

"*Rex v. Carroll*" (7 C. and P., 145), in which the above case was disapproved, had nothing to do with the point, as in the latter case provocation was proved. He also referred to "*Rex v. Meakin*" (7 C. and P., 297).

Mr. Williamson, for the Crown, contended that the jury could not have been misled by the words used, as the learned Judge had told them that there was no question of insanity in the case. He also read the judgment of Mr. Justice Stephen in "*Reg. v. Doherty*" (16 Cox's *Criminal Cases*, at p. 308), and referred to "*Reg. v. Monkhouse*" (6 Cox's *Criminal Cases*, 55).

Mr. Justice Darling, in delivering the judgment of the Court, said that the point argued in the case turned on some words used by Mr. Justice Coleridge in summing up the case to the jury. Complaint was made as to words used in leaving to the jury considerations applicable to the case of a man who, being drunk at the time, had done acts which resulted in the death of another. He would deal with these words presently; but he thought it necessary before doing so to deal with the history of the doctrine of the effect of drunkenness in such a crime as murder where the question of intent was involved. Originally the law was that, although an insane person was not liable to the same consequences and was not judged by the same standard as a sane one, yet if he was suffering from *dementia affectata*—that is, a temporary insanity caused by the accused's own voluntary act in getting drunk, the legal doctrine was that drunkenness was no excuse for crime—1 Hawkins' *Pleas of the Crown*, c. 1, section 6, where it was said: "And he who is guilty of any crime whatever through his voluntary drunkenness shall be punished for it as much as if he had been sober." As far as they knew, the point was first decided in a contrary sense in the case of "*Rex v. Grindley*" (*supra*), decided in the year 1819, and since then there had been many decisions cited to them in which learned judges had expressed the doctrine that where intent was of the essence of a crime that intent might be disproved by showing that at the time of the commission of the act charged the prisoner was in a state of drunkenness, in which state he was incapable of forming the intent. The different judges had expressed themselves differently, but not so much so as to prevent the Court from saying that they were expressing the same doctrine. Two of the cases cited to them on the point were "*Reg. v. Monkhouse*" (*supra*) and "*Reg. v. Doherty*" (*supra*), the first decided by Mr. Justice Coleridge and the second by Mr. Justice Stephen, and no doubt identical expressions were used in each. But they thought it necessary to say that when a Judge summed up a case to a jury he must not be taken to be inditing a treatise on the law. He was addressing himself to the particular facts of the case then before the jury, and no judge could affect, in those circumstances, to give a definition which should apply to every conceivable case. It was really enough if he gave a sufficient definition to rightly direct the attention of the jury to the facts of the case before them. He had stated what the ancient view was, and that it was not the present view. They did not consider it was any part of their duty to enlarge the rule of law or to use language wider than that used by the judges who had considered the question before them, for it was not expedient to do anything which should confer an

immunity on persons who had made themselves drunk larger than that which they already enjoyed. The rule laid down by the Court was as follows (this was written by the learned Judge): "A man is taken to intend the natural consequences of his acts. This presumption may be rebutted—(1) in the case of a sober man, in many ways; (2) it may also be rebutted in the case of a man who is drunk, by showing his mind to have been so affected by the drink he had taken that he was incapable of knowing that what he was doing was dangerous, *i.e.*, likely to inflict serious injury. If this be proved, the presumption that he intended to do grievous bodily harm is rebutted." He would now refer to the words of Mr. Justice Coleridge (*supra*), which it was contended should induce them to hold that he had not properly directed the jury. (His Lordship read them.) It was said that these words would induce the jury to suppose that unless they found the appellant insane they would not be justified in finding him guilty of manslaughter. But the learned Judge had expressly told the jury that there was no plea of insanity. The facts were that the appellant had brutally ill-treated the deceased during a great part of the night on which she died, and had been heard to say that he would give her a good hiding; and he had broken a broom-stick over her. He had struck her a blow on the top of the nose, and as she fell towards him had given her a violent blow with his fist on the lower part of the stomach, which ruptured an intestine and killed her. If he did do this, it must be assumed that he intended to inflict serious bodily injury on her. It was contended at the trial that this intent could not be presumed because the appellant was incapable by reason of drunkenness of having such intent. It then became Mr. Justice Coleridge's duty to tell the jury what kind of evidence would show this. They had carefully considered the words used by the learned Judge. It was said that some of the language was picturesque and figurative. No doubt; but it was quite easy in picturesque and figurative language to express what was true; and they could not say that that language differed from the rule which they had just laid down. It was unnecessary to criticise the very words used, unless they thought them misleading and calculated to lead the jury to think that something which would amount to absolute insanity must be proved to entitle them to bring in a verdict of manslaughter. They thought that the doctrine was not expressed by Mr. Justice Coleridge in such a way as to mislead the jury into thinking that insanity must be proved, and by their verdict they must have meant to find that he was capable of having the intent to injure or kill, and in fact did have such intent. The appeal must be dismissed.

CRIME AND DRUNKENNESS.

IN the recent report of the Departmental Committee on the Inebriates Acts occurs the following passage: "Since the drunkenness of the occasional drunkard is produced by his own voluntary act, it would seem just that he should be held responsible for his drunkenness and for all its consequences.

That this is the view usually taken is shown by the familiar maxim that 'drunkenness is no excuse for crime.' In actual practice, however, drunkenness is often regarded as a mitigation of those crimes in which intent is an essential factor, since a man may be proved to have been so drunk as to have been incapable of forming an intention. There does not seem to be any sufficient reason for interfering with this practice."

The accuracy of this statement of the law is shown in a convincing and gratifying manner by the judgment of the Court of Criminal Appeal in the case of *Rex v. Mead*, which is so important that it is here reproduced *in extenso*. While it has long been understood that the law is as has been stated above, the decisions hitherto given have not always been in harmony with that statement, and it is important, therefore, to have a judgment of the Court of Appeal which places the matter out of doubt.

The function of the medico-legal pages of this Journal has never been restricted to the mere record of trials and decisions. We have always examined such records with a view to ascertaining how far they were in harmony with what appear to us, as citizens in the first place and alienists in the next, to be substantial justice. From this point of view the judgment of Mr. Justice Darling appears unexceptionable, both as the statement of a principle of law, and in the application of that principle to the particular case in question. Incidentally it shows that the state of the law enunciated by the Departmental Committee is correct.

KING'S BENCH DIVISION.

(Before the Lord Chief Justice of England, Mr. Justice Bigham, and Mr. Justice Walton).

EATON *v.* BEST.

When is a Man an Habitual Drunkard?

THIS was a case stated by the stipendiary magistrate for the city and county of Hull. At a Court of Summary Jurisdiction complaint was made by the appellant, William Eaton, that the respondent, Arthur Best, "having within the twelve months preceding the date next hereinafter mentioned been convicted summarily at least three times of an offence mentioned in the first schedule to the Inebriates Act, 1898,

and being an habitual drunkard within the meaning of the Inebriates Acts, 1879 to 1898, unlawfully was on August 8th, 1898, found drunk and incapable in Spring Street, at 4.40 p.m." The complaint was heard on August 17th and 25th, when the following facts were proved or admitted:

That on August 8th the respondent was found drunk in a highway in the said city and county, and that within the twelve months preceding the date of the commission of the said offence the respondent had been convicted summarily three times of other offences which are mentioned in the schedule to the Inebriates Act, 1898; that the respondent (whose age was about thirty-five) was given to drink and had been so for twelve or fourteen years; that through drink he lost his situation when working for his brother, a dry-salter, some years ago, since when the only employment he had been able to get had been on docks; that he would sometimes be drunk three or four times in one week and at other times he would keep sober for four or five weeks; there had been no improvement latterly. When drunk he was more like a lunatic than a human being and did not appear to know what he was doing. He was separated from his wife six or seven years ago because of his drinking habits; when he was sober he was, in the words of his father, "as right as anyone," and knew what he was doing; he had been seen apparently dazed the day after drinking heavily, but not more dazed than any other person would be who had consumed as much alcohol, and his condition was no more peculiar than that of any other person who had been equally drunk. Nothing was noticed in the respondent attributable to a course of drinking, and his father stated that he would give his son money and send him out to do business if he were sober. By Sec. 2 (1) of the Inebriates Act, 1898, it is enacted that "any person who commits any of the following offences (mentioned in the schedule to the Act) and who within the twelve months preceding the date of the commission of the offence has been convicted summarily, at least, three times of any offence so mentioned, and who is an habitual drunkard, shall be liable upon conviction on indictment, or if he consents to be dealt with summarily, on summary conviction, to be detained for a term not exceeding three years in any certified inebriate reformatory, the managers of which are willing to receive him." Sec. 3 of the Habitual Drunkards Act, 1879, provides that "'an habitual drunkard' means a person who, not being amenable to any jurisdiction in lunacy, is, notwithstanding, by reason of habitual intemperate drinking of intoxicating liquor at times dangerous to himself or herself or to others or incapable of managing himself or herself and his or her affairs." On the part of the appellant it was contended that the respondent was an habitual drunkard within the meaning of the definition in the 1879 Act inasmuch as he was "by reason of habitual intemperate drinking of intoxicating liquor . . . incapable of managing himself and his affairs." In support of this view it was argued that the words "at times dangerous, etc.," or "incapable, etc.," were inserted as a guide to the Court by way of definition of what drunkenness was and not what the effect of drunkenness might be—that if the latter they were insufficient and unnecessary. "*Robson v. Robson*" (68 J.P. 416) was also cited. It was further

contended on the authority of "R. v. Shaw" (L.R. 1 C.C.R. 145); "R. v. Dewhirst's Trust" (33 Ch.D. 416); "R. v. Martin's Trust" (34 Ch.D. 618); and "*In re Barker*" (39 Ch.D. 187) that persons "at times dangerous, etc.," or "incapable, etc.," if not habitual drunkards were amenable to jurisdiction in lunacy. It was also urged that if it was proved that a man had been convicted three previous times and was habitually intemperate, then his incapacity to manage himself and his affairs was proved at the same time because he was habitually intemperate. It was also contended that if the strict interpretation of the definition was the right one it would not be giving the statute a reasonable meaning, as the only persons who would come within its purview would be those whose brains were already affected, and that it would be of no use sending to inebriate reformatories. As no arguments were adduced on behalf of the respondent the stipendiary magistrate stated those which occurred to him in answer to the contentions put forward on behalf of the appellant. He was not satisfied that the case of "*Robson v. Robson*" bound him, for then the point was not taken as to whether the man's condition was the result of the habitual character of his drinking or only due to a particular preceding bout; the question was of fact as to whether the man's drunkenness, which the justices had found to be habitual, was or was not habitual. Regarding the four cases as to whether trustees suffering from paralysis, softening of the brain, or the like, were of unsound mind, which were cited on behalf of the appellant, these seemed to him not to touch the point intended to be made. The argument founded on convictions coupled with habitual intemperance seemed also to have no application. The question here was a different one. It was, "Is this man an habitual drunkard?" Had the prosecution succeeded in proving that the respondent's incapacity on sundry occasions was caused by the habitual character of his drinking habits or was it only because he was then drunk? (*Solicitor's Journal*, vol. xlv, p. 644). There was no evidence of any symptoms of accretion of alcohol; on the contrary, when he was not drunk he was said to be "as right as anyone." He was of opinion that the appellant had failed to prove his case, and he dismissed the complaint. The question upon which the opinion of the Court was desired was whether the stipendiary magistrate upon the above statement of facts came to a correct determination and decision in point of law.

Mr. McCardie appeared for the appellant, and Mr. G. F. L. Mortimer for the respondent.

Mr. McCardie contended that the object of the Act would be defeated if the ruling of the stipendiary magistrate was correct. The facts in "*Robson v. Robson*" were almost identically the same as in the present case, and the Court held that the man was an habitual drunkard within the Act. In *Stone's Justices' Manual*, 1908, p. 273 (9), it was stated that the "law officers of the Crown have advised that the definition applies to a person who habitually drinks to excess, and who is in consequence at times, either when sober or drunk, dangerous or incapable."

Mr. Mortimer contended for the respondent that the Act aimed at a man whose capacity for managing his affairs was injured by reason of his habitual drinking, and did not apply to a man whose incapacity

arose from a particular bout of drinking, and that therefore it did not apply to the respondent.

The Lord Chief Justice, in delivering judgment, said that there was no reasonable doubt but that the respondent was what every man in the street would say was an habitual drunkard ; but Mr. Mortimer said that he did not come within the definition given in the Habitual Drunkards Act, because the definition from the words "not amenable to any jurisdiction in lunacy" implied that an habitual drunkard was one who at all times was incapable of managing his affairs. But his Lordship thought that they ought not to cut down the meaning of the words in that manner, and say that the definition did not apply to a man who was in intervals between the bouts of drinking a sober man. The case must therefore be sent back to the magistrate with directions to convict.

By this appeal a question is decided, the doubt on which has completely nullified the Inebriates Act, 1898, in Hull and other places. Mr. Halkett, the stipendiary for Hull, following Mr. Tindall Atkinson, Recorder of Leeds, has held that the wording of the definition of "habitual drunkard," in the Habitual Drunkards Act, 1878, was such that, adapting the words of the late Sir FitzJames Stephen, with respect to another formula, scarcely anyone was ever drunk enough to come within it. The incapacity of the defendant was proved, and was proved to be owing to drunkenness, and it was proved that he was, and had been for twelve or fourteen years, frequently drunk ; but it was held that he was not an habitual drunkard within the definition, because the definition required that his incapability should be "by reason of the *habitual* drinking of intoxicating liquor," and there was nothing to show that his incapability on the occasion in question was due to habitual drinking, and was not due merely to the fact that he was then drunk—was incapable because of a single bout of drinking, and not because of his habitual drunkenness.

This flaw in the definition, with many others, was brought to the notice of the Departmental Committee on the Inebriates Acts, whose report has been recently issued, and a new definition was formed to obviate this and the other imperfections. It is now settled by the Court of Appeal that the difficulty is, as it seems to the lay mind, an imaginary one ; but it is of sufficient importance to have nullified the Act in many places for a period of ten years. A statement of all the flaws, nine in number, that have been discovered in the enacted definition of forty-seven words, will be found in the Report of

the Committee, together with the amended definition which is proposed instead. The old definition seems to have been the product of the unaided exertions of the Parliamentary draughtsman, since no definition is proposed by either of the previous Committees on the question. It is to be hoped that, in any future Act, care will be taken to frame such a definition as shall not be open to so many and such manifest objections.

KING'S BENCH DIVISION: DIVISIONAL COURT.

(Before the Lord Chief Justice, Mr. Justice Darling, and
Mr. Justice Jelf.)

THE KING *v.* THE GOVERNOR OF H.M. PRISON AT STAFFORD
(*ex parte* EMERY).

Habeas Corpus.

In this case a rule *nisi* for Habeas Corpus directed to the Governor of Stafford Gaol had been obtained on behalf of one F. Emery. The circumstances in which the rule was granted were stated in *The Times* for March 10th.

Mr. Rowlatt appeared to show cause, and Mr. Bosanquet appeared to support the rule.

It appeared that the prisoner Emery was stone deaf and was unable to read or write. He was brought up before Mr. Justice Channell for trial at Stafford Assizes on a criminal charge, and before the case was gone into the jury were asked to find whether he was or was not mute by the visitation of God. They found that he was so, and were then sworn a second time to find whether he was able to plead to the indictment and able to understand the proceedings. As to this they found that he was incapable of pleading to or taking his trial upon the indictment, or of understanding and following the proceedings, by reason of his inability to communicate with, or be communicated with by, others. Thereupon Mr. Justice Channell ordered that he should be treated as non-sane and be kept in custody until his Majesty's pleasure be known.

Mr. Rowlatt, on behalf of the respondent, said that first of all it should be made clear that so far as the governor of the gaol was concerned the order which had been made was a perfect justification for whatever he had done. Whether the order was one which the Court could properly make or not the governor was bound to act upon it and no action could be brought against him for having done so.

The Lord Chief Justice said it was unnecessary to argue that.

Mr. Rowlatt, continuing, said the real question was whether the concluding part of the order, that the prisoner should be treated as non-sane, was justified by the two previous findings of the jury. Section 2 of the Act for the safe custody of insane persons (39 and 40 George

III c. 94) provided that if any person indicted for any offence should be insane and found to be so by the jury, so that such person could not be tried upon the indictment, it should be lawful for the Court to order such person to be kept in strict custody until his Majesty's pleasure could be known. Then came the case of "*Rex v. Pritchard*" (7 C. and P. 304), which was decided under that section, and which in effect laid down that inability to plead or to understand the proceedings was to be considered as insanity for the purposes of the section. That view was supported by "*The Queen v. Berry*" (1 Q.B.D. 447, and 13 Cox's *Criminal Cases*, 189). He referred also to the Hale's *Pleas of the Crown*, p. 33, and to "*R. v. Steel*" (1 Leach 452), and submitted that the rule should be discharged.

Mr. Bosanquet submitted that the prisoner was not in legal custody and should be set at liberty. Mr. Rowlatt had dealt with the case on the authorities, but it was better to look at the words of the Statute itself. [The Lord Chief Justice: Even if the Statute had been originally misunderstood we should not upset the decisions after all these years.] Further, the cases relied upon by Mr. Rowlatt did not really apply. In "*Rex v. Pritchard*" (*sup.*) it was proved in evidence that the prisoner was nearly an idiot and had no proper understanding, and the jury had to deal directly with the question of insanity; it was not suggested to them that mere inability to be communicated with was to be considered as insanity. Here the jury had directly negatived the presumption of insanity by finding that the prisoner was only mute because he could not be communicated with. The prison doctor had actually told the jury that, in his view, the prisoner was not insane, and if the jury had disagreed with him they would have expressly said so. The prisoner should be set free; he could be arrested again if necessary. And, in any event, "*Reg. v. Pritchard*" (*sup.*) and Dyson's case referred to therein were only decisions at assizes and were not authorities binding on this Court. There appeared to be no definition of insanity which covered such a case as the present, and the question really was, not whether it was convenient that this particular prisoner should be shut up, but how far it was right for a judge to order a man to be confined as a lunatic who had not been so found by process of law.

The Lord Chief Justice said that for himself he was glad the case had been argued and that the Court had had the opportunity to re-declare the position of the matter in law. The important point in the case was that the jury had found the prisoner incapable of pleading or of understanding the proceedings by reason of his inability to be communicated with, and upon that Mr. Justice Channell had ordered him to be detained as non-sane. They had to consider whether that order was properly made. Mr. Bosanquet had contended that it was not, because there was no express finding of insanity; but he would be sorry to have to adopt that argument, and he could conceive of nothing more likely to cause injustice than to say that in such a case as this either the jury must find insanity or the prisoner must be released. The great weight of opinion and judicial decisions had established a practice which had prevailed for sixty years, and was in accordance with common sense and should not now be over-ruled. It was true, as Mr. Bosanquet pointed out, that the words of the statute

did not refer to inability to plead, but only to insanity; but that fact had been considered in "*Rex v. Pritchard*" and "*Rex v. Dyson*" (*sup.*), and had been held to be immaterial. It was true that those cases were tried at assizes and were not binding on this Court; but he would be unwilling in any event to upset a convenient practice which had been established for so many years, and those cases were supported by the decision of the Court of Crown Cases Reserved in "*The Queen v. Berry*" (*sup.*). There was no question of general insanity, but only one of inability to understand the proceedings, and it was expressly held that such inability was, in point of law, insanity. Sanity, therefore, must include ability to follow the proceedings and to understand the accusation and the evidence; and the order in this case was made in accordance with common sense and in the proper administration of the law. The rule must therefore be discharged.

Mr. Justice Darling said that he was of the same opinion. Mr. Bosanquet's point was that the prisoner had never really been found insane, but it seemed to him that the prisoner had been so found. The jury found not only that he was mute, but that he could not understand the routine of the Court or follow the proceedings or make his own views known. That was a sufficient finding of insanity to bring the case within those which had been cited.

Mr. Justice Jelf said he was of the same opinion, and he only wished to add a word as to the course taken by Mr. Bosanquet after applying to him for advice. At the assizes, finding that the prisoner was going to be undefended, he had asked Mr. Bosanquet to defend him. The trial then came on before Mr. Justice Channell in another court, and when Mr. Bosanquet afterwards asked his advice as to further proceedings, he thought that, inasmuch as it was the practice for a poor man to be defended at assizes, it was only logical that if further proceedings were required the same counsel who had defended the prisoner at the trial should act for him throughout in all proceedings which might be necessary to obtain for him the best possible result. He, however, concurred in what the Lord Chief Justice had said in the matter.

The rule was accordingly discharged with costs.

To the non-legal mind this seems an extraordinary decision. There is no pretence for alleging that the prisoner is insane. There is no evidence that he is insane, and there is the evidence of the prison doctor that he is not insane, and yet he is, in point of law, insane. Nor is this all, as they say in Oxford. He is unconvicted; he is not even tried, yet he is committed to prison as a criminal. This sane and untried person is, in the eye of the law, a lunatic and a criminal, and as such is committed to prison for an indefinite time.

The profession of a jurisconsult has never, I believe, existed in this country, but if such a person did exist, this case would afford him several very interesting problems.

Would it be competent to a medical practitioner to make a

certificate of lunacy under the Lunacy Act, 1890, with respect to any person, on the ground that that person was deaf and could neither read nor write? Would it be competent to a justice or a judicial authority to make a reception order under the Act in such a case? Would the Commissioners in Lunacy allow such a reception order, founded on such a certificate? Would the manager of an institution for lunatics be justified in detaining the subject of it? What would be the result of an action at law brought by a person so certified and so detained against those who had certified and detained him?

What would be the result of an inquisition in lunacy, in which the only evidence of insanity was proof that the defendant was deaf and could neither read nor write? Would this evidence satisfy a jury? Would it satisfy a Master?

Suppose a man to be placed on his trial who understands no language but, say, Fuegian; and suppose no interpreter to be available; is the Fuegian, without trial, to be sent to prison for life as a criminal lunatic because he is unable to understand the proceedings, and "such inability is, in point of law, insanity"?

From a medical point of view it is beyond all question that a deaf person who can neither read nor write may be completely sane, in the ordinary acceptance of the word, and in the sense that he may be competent to manage himself and his affairs. He may be a skilled artisan; he may be able to carry on a trade; he may buy and sell; he may marry; he may be competent in the essential affairs of life. His only inability is that his means of communication with his fellows are restricted. Before education became general, there must have been in the community many people, many hundreds of people, who were stone deaf and could neither read nor write, but with respect to whom the question of sanity never was raised and never ought to have been raised. Practically, this decision makes the sanity of a person depend upon the extent of his education, on his ability to read and write—a new criterion, as far as I know.

The fact is that the law has overlooked the possibility that a sane person may be prevented, by deafness and inability to read, from understanding the proceedings in a court of law. It is a *casus omissus*. There being no machinery for dealing with such persons, the law takes the nearest machinery to hand, and wrenches and distorts it until it can be made to deal with them.

The legislature had not sufficient imagination to conceive of accused persons being unable, for other reasons than mental incapacity, to understand the accusation and the evidence when they are put upon their trial. Judges, therefore, have been obliged to supply the omission as best they could; and have adopted a device, clumsy and inaccurate in the extreme, but no doubt the best that was available. When such a prisoner comes before the Court, he is dealt with as a criminal, which he may or may not be, and as a lunatic, which he is certainly not. The unfortunate subject of this decision has contrived, in spite of his terrible handicap, to hold his place in the world, and to manage himself and his affairs capably up to the time of his arrest. He now finds himself incarcerated for the rest of his life without knowing why or wherefore.

It is no doubt to be understood that, when the Court pronounced the prisoner to be insane, the Court meant that he was to be considered insane for the purpose of the Act (39 and 40 Geo. III., cap. 94); and this highly artificial restriction of the meaning of the term insanity is no doubt convenient for the purpose in view; but it seems a clumsy expedient to provide for a *casus omissus* by saying that, "for the purposes of the Act," white shall be called black; neither does the expedient diminish the essential injustice of holding a sane man to be insane, even if only "for the purposes of the Act." For what is the purpose of the Act in this case? It is to get the man into prison, and keep him in prison for an indefinite time, probably to the end of his life. This is a punishment much in excess of what could have been inflicted if the man had been found guilty of the act with which he was charged. The purpose of the Act is not only to put the man in prison, and keep him in prison, but to treat him as a lunatic, and to keep him among lunatics—surely a very improper mode of treating a person who is insane only "for the purpose of the Act," and who for every other purpose under heaven is sane.

It seems, from the cases cited before the Divisional Court, that this is not an isolated case. Such cases have occurred before, and may occur again. I submit that the proper mode of treating such a case is to put the prisoner back, and have him instructed in some means of communication by which he can be made acquainted with the proceedings in Court. There are several known modes by which this can be done, and has

been done, and though it may be a lengthy process, it will probably be found shorter than imprisonment for life.

Occasional Notes.

The Verdict of Suicide whilst Temporarily Insane.

The coroner for the City of London, Dr. Waldo, has recently drawn attention to the verdict of suicide whilst temporarily insane (or some equivalent expression) returned by juries on cases in which no definite evidence of mental disorder had been produced.

From a legal point of view nothing could be more erroneous. Suicide has been legally defined to mean self-murder, a crime which an insane person cannot commit, whilst temporary insanity is not recognised by the law. From the legal aspect the verdict is most unsatisfactory.

The verdict, however, has been a popular one for a very long period, has been returned in innumerable cases, and undoubtedly has a meaning to the lay, very different from that which it conveys to the legal mind.

Suicide to the layman evidently means self-killing, not self-murder, and equally evidently the fact of self-killing is itself held to be evidence of insanity.

It is desirable to consider what can be said in support of these conflicting views, and whether anything can be added from the medico-psychological aspect in elucidation of the misunderstanding.

To begin with the legal view. Probably the earliest legal opinion of what constitutes self-killing as self-murder is that of Plowden (in *Hales v. Petit* in 1562), from which Shakespeare is said to have derived Hamlet's argument. Plowden says, "that because he who determines to kill himself, determines to do it secretly, *nullo presenti, nullo sciente*, lest he be prevented, therefore the quality of the offence is murder." If secrecy is the proof of criminality, then is nearly every lunatic who kills himself guilty of self-murder, the cunning secrecy of such acts being well known. Secrecy, therefore, would not appear to be

a convincing proof of the criminality of the act. This, however, is apparently the only reason that has been given, and Sir James Fitzjames Stephen, in his *Digest of Criminal Law*, says clearly that "a person who kills himself in a manner which in the case of another person would amount to murder, is guilty of murder." It does not seem possible that a man can intentionally kill himself except in a way that would be murder in another, so that this appears to be merely an assertion of the legal view, without evidence in its favour.

Hawkins, in his *Pleas of the Crown* (1716), says: "I cannot but take notice of a strange notion which has unaccountably prevailed of late, that everyone who kills himself is *non-compos*, of course, for it is said to be impossible that a man in his senses could do a thing so contrary to Nature and all sense and reason." He argues that the murder of a parent or a child is equally against Nature, and therefore equally an evidence of insanity.

The fallacy of this argument is obvious. A man, on a dark night, or not knowing his parent, or even with full knowledge, might rob and murder him, the intent of the act being to add to the self-advantage, *i.e.*, the *self-preservation*, of the murderer; in the case of self-killing, on the contrary, the self-killer is acting against the primal animal instinct of *self-preservation*.

The two acts are as wide apart as the poles psychologically, and are directly opposed in intention. This argument of Hawkins', on which probably much more of the legal attitude depends than has been stated, would seem to be absolutely erroneous.

In the *History of Criminal Law* it is further laid down that "every person who aids and abets any person in so killing himself is an accessory before the fact or a principal in the second degree in such murder." This would be the case whether the self-killer was sane or insane: indeed, the criminality would be all the greater in the latter case. This does not in any way, therefore, help to prove the criminality of the act.

A recent writer on the subject (R. H. Wellington, *Trans. Med.-Legal Soc.*, 1904), concludes that "all the penalties of forfeiture of the *felo-de-se* have now passed away," urges the abolition of the word "suicide," and suggests the adoption of the verdict as set out in the Coroners' Act, 1887, "that the said A. B. did *feloniously* kill himself," in all cases except those in which

there is definite evidence of insanity. This of course is the very fullest statement of the legal view of criminality.

The popular view that self-killing is itself an evidence of insanity has existed apparently as far back as there is any record of human thought ; and, as shown in the opinion of Hawkins above quoted, it has been acted on in verdicts for at least two centuries.

Self-preservation as the first law of animal life is so obviously true that the deduction that to act contrary to this is abnormal would appear to be self-evident. Whether this abnormality is of the nature of insanity has, however, to be considered.

In the first place nearly every human being suffers at some period of life from troubles and anxieties much more severe than those which ordinarily lead to suicide, so that the persons committing it clearly differ from the normal. That this departure from the normal is related to defective nervous conditions is clearly evidenced by the statistics of suicide. These show that its frequency is related to seasons, time of day, race, civilisation, religion, sex, age, etc. ; to social conditions—intemperance, etc. ; that it is often hereditary and related especially to heritable nervous diseases. In fact, the whole medical aspect relates to defective nervous and mental conditions tending to weakened self-control. The medical, as the lay view, yields the conclusion that the act of self-killing would presume this absence of normal self-control of a character indicating mental defect rather than moral depravity.

Evidence in accordance with this view from the legal side is not wanting. Dr. Diplock, for example, a late Middlesex coroner, asserted that in a large majority of cases of suicide he had found evidence of insomnia immediately preceding the act. A Liverpool coroner similarly found that alcoholic indulgence had preceded the act in a large majority of cases.

Medical observation of cases recovering from attempted suicide would overwhelmingly confirm this.

The conclusion is inevitable that the lay assumption of mental disorder is nearer the truth than the assumption of criminality on the legal side. There can be little doubt that if evidence were forthcoming it would, in a very large majority of instances, support the truth of the lay contention.

The term "suicide," according to Mr. Justice Wightman (*Clift v. Scwaller*, 1847), has "no technical or legal meaning,"

and "temporary insanity," according to Justice Darling (appeal of Ethel Harding, 1908), "is not known to English law."

The verdict of "suicide whilst temporarily insane" therefore has no definite legal meaning or recognition, is purely a "lay" expression, and conveys a lay and not a legal meaning, which is, that the self-killing was the outcome of mental disorder.

The legal assumption that self-killing is crime until it has been proved to be the contrary would seem to err more often than the opposite assumption, and justice would seem to be most frequently arrived at in the popular verdict, in its popular meaning, of suicide whilst of unsound mind.

The difficulty of arriving at the truth in these cases suggests that the investigation of the actual condition of the mind of the suicide should be more fully inquired into by the coroner's court than has been the practice hitherto.

This brief presentment of the subject is, of course, by no means exhaustive, and is intended to draw the discussion and lead to its full consideration by the members of the Association.

Temporary Insanity.

In the preceding "occasional" on suicide, Mr. Justice Darling's pronouncement that "*temporary insanity* is not known to English law" is quoted from the report of the appeal of Ethel Harding in 1908. The plea for the accused woman was that whilst temporarily insane she had murdered her child.

In Tuke's *Dictionary of Psychological Medicine* are articles on evanescent, ephemeral insanity, mania and melancholia transitoria, etc., describing various forms of insanity, from a variety of causes, too familiar to need recapitulation, with references to the writings on those subjects from nearly every alienist of repute in every country. Numerous cases of insanity lasting only a brief period are recorded with exact detail in psychiatric literature, and probably every living alienist could describe cases of this kind from his personal experience. Even from classical times we have the saying, "*Ira furor brevis est.*" Many cases of unsuccessfully attempted suicide give evidence in the same direction. In spite of all this overwhelming evidence of insanity, enduring from a few minutes to a few hours only, an eminent judge makes the above assertion.

Such an astounding failure to recognise facts at once suggests the inquiry "are things what they seem," or whether to the law, as to Jowett, what it "does not know is not knowledge." Such an attitude would be amusing but for the serious fact that the lives of human beings hang on this dictum. This decision, however, will be quoted increasingly in such cases unless some action can be taken, by an outside influence, to bring the legal view into accordance with the facts of everyday life.

The Medico-Psychological Association, in this and some similar matters, would be performing an appropriate function in drawing the attention of the Lord Chancellor to the actual facts. If that functionary cannot be brought to move, it is a question whether the Legislature should not be appealed to with a view of stimulating or directing the legal mind.

Asylum Officers' Superannuation Bill.

This Bill passed its second reading without discussion late on Thursday night, the 1st inst., and on the motion of Sir William Collins was referred to a Select Committee.

A copy of the Bill appears in this number of the Journal (see p. 393), and appended thereto are the amendments which have been suggested at a special meeting of the Parliamentary Committee of the Medico-Psychological Association.

Part II.—Reviews.

Mental Pathology and Normal Psychology. By GUSTAV STÖRRING, Dr. Phil. et Med. Translated by Thomas Loveday, M.A. London: Swan Sonnenschein and Co. 1907. Pp. 298.

This work consists of a series of twenty-five lectures delivered originally by Prof. Störring at the University of Leipzig. The particular purpose of these lectures is to trace the significance of mental pathology in the elucidation of various problems in normal psychology, and they are therefore representative of a method of investigation which is essentially of recent development, and which promises to be of the greatest utility. It is being increasingly recognised that no arbitrary distinction can be drawn between the phenomena of normal and abnormal psychology, and that it is necessary for the psychologist and psychiatrist to work in combination if progress is to be made.

It is certainly true that mental pathologists have been far more successful in the last few years in explaining the principles which actuate normal conduct and thought than have normal psychologists who have approached the subject from a more academic standpoint. One has only to refer to the work of such investigators as Janet, Freud, Jung, and Morton Prince to demonstrate the truth of this contention. As the author states in his first lecture, when ascertaining the normal function of bodily organs we are not content in medicine with mere observation and experiment; the pathology of the organ is an indispensable assistance. In the same way in ascertaining normal *mental* functions, mere observation should be supplemented not only by experiments which we make, but also by those which *nature* makes for us, that is, by pathological cases.

The second lecture is devoted to a discussion of the various aspects of feeling. The Lange-James theory of emotions which reduces them to nothing but the sensations of bodily changes is criticised at length. The writer shows that while these sensations are essential constituents of an emotion, yet these themselves have an affective tone which is included in the complex state of consciousness comprising the emotion. These affective elements, which are incapable of further analysis are, qualitatively different from sensations, and cannot be reduced to them.

The pages devoted to hallucinations contain a *résumé* of the existing views in regard to this complex subject, and include much that is original and instructive. Especial stress is laid on the influence of affective-conative conditions as a predisposing factor of hallucinations and in the determination of their particular content. Ideas may obtain sufficient intensity to acquire the characters of percepts without losing their subjectivity. Pseudo-hallucinations have this characteristic. To attain a truly objective nature the intensified images must appear in definite position in perceived space, and exhibit a constant dependence upon movements of the sense organ and the whole body. Such a condition can only be brought about by fusion of the intensified idea with some indefinite sense impression. In illusions the sense impression is more definite, and it fuses with an ideal content because of its similarity, and thus receives a subjective supplementation which nevertheless seems objective to the subject.

Three chapters are occupied by a consideration of aphasia. The subject is fully discussed, but unfortunately loses some of its value owing to the fact that since the lectures were delivered the older views have been largely revolutionised by more recent researches. To some extent this criticism applies to other portions of the book. It is now several years since the lectures were originally given, and much that is new has since appeared.

The author devotes some attention to states of mental fog as manifested in epilepsy, and lays especial stress on changes in organic sensibility in the production of amnesic conditions. The amnesias, anæsthesias, and disintegrations of the personality occurring in hysteria are fully dealt with. The theory of double consciousness which is adopted to render these phenomena intelligible, the author finds himself entirely unable to accept, and criticises the doctrine of the subconscious

at some length. We do not find the arguments which the author employs to confute the hypothesis at all cogent.

In dealing with the genesis of imperative ideas considerable stress is laid on the importance of emotional factors. One misses, however, any reference to the antecedent psychasthenic state which Janet considers an essential condition in the production of obsessions.

The author's views in respect to delusional states are of considerable interest, and repay careful study. He attaches paramount importance to the influence of the affective life in the production of insane ideas. All recent psychology tends to accentuate the importance of this factor in both normal and abnormal states of mind, and the older conception of a so-called primary intellectual disorder is now almost universally recognised as being contrary to all experience.

The whole book is abundantly illustrated by references to actual cases, a feature which considerably enhances the value of the conclusions which are drawn. It contains much that is original and suggestive, and brings together a number of observations which were previously isolated and scattered.

Possibly owing to the difficulties of translation, which are very considerable in a work of this type, one finds it at times difficult to follow some portions, and the style is somewhat pedantic.

Its many features of interest, however, render it worthy of careful study.

H. DEVINE.

Syphilis and the Nervous System [*Syphilis und Nervensystem*]. By Dr. MAX NONNE, Senior Physician to the General Hospital, Hamburg-Eppendorf. Second Edition, Revised and Enlarged. Pp. xviii—700. 8vo. Berlin: S. Karger, 1909.

The first edition of this work, based upon lectures delivered in 1899, 1900, and 1901, was published in November, 1901, and was reviewed in the *Journal of Mental Science* in the following year.

In the preface to the new edition, Nonne remarks that in the six years that have elapsed since the first publication of the book, numerous and important additions have been made to our knowledge of syphilis; and no small proportion of these relate especially to his chosen subject, syphilis and the nervous system. Since the new century began the *Spirochæte pallida* has been discovered; the same period has witnessed the utilisation of cyto-diagnostic methods and of the chemical examination of the cerebro-spinal fluid in cases of tabes, general paralysis, etc.; finally, within the last year or two, has come the application by Wassermann and Neisser of sero-diagnostic methods (*die Komplement-Ablenkungs-Methode*) to the diagnosis of syphilis. Various other matters in respect of which the new edition marks an advance in our knowledge will be mentioned in the course of this review. In the dedication of the work there is naturally no change. This edition is inscribed, like the first, to Wilhelm Erb; and it is an admirable tribute to one of the great founders of modern neurology.

The new edition contains 640 pages of text, in addition to an elaborate bibliography and indexes. There are nearly 100 illustrations

and it is praise enough of these to say that they are worthy of the work. Printing and paper are alike excellent.

The book is divided into nineteen chapters, or lectures, all full of interest to the practising physician and to the pathologist, but not all, of course, of equal interest to the readers of this JOURNAL.

The first chapter is devoted to general considerations, to etiology, and diagnosis. Nonne first alludes to the general impression, which he shares, that syphilis is on the increase, but points out that in the absence of notification—for which in most countries public opinion is not, as regards venereal diseases, as yet ripe—scientific proof of such increase is unattainable. Apart from clinical experience, we have, as he well says, general grounds for believing that the disease is increasingly prevalent. It is propagated from individual to individual, that is to say, it is associated with human intercourse, and of late years, with increasing facilities, there has been an enormous increase in intercourse throughout the world; in the working classes, increasing economic pressure has led, in the female sex, to increasing prostitution, in the male sex, to increasing celibacy; large towns have grown enormously at the expense of the rural population; in most countries universal military service, enforcing garrison life on all young men, greatly increases the exposure to infection; and, finally, alcoholism, which at the same time increases the exposure to infection, and the liability of infection in those exposed to it, is also everywhere on the increase. The author then proceeds to discuss the manner in which modern conditions, more especially town life and the other effects of the industrial revolution, have, apart from syphilis, given rise to a general increase in nervous disorders—to a general debilitation of the nervous system—to the production of “nervous cripples.” To bring these last considerations into relation with his particular theme, “Syphilis and the Nervous System,” he writes:

“We may thus assume, *à priori*, that syphilis, as an ever more frequently acting noxious influence, exerts its effects upon a nervous system whose powers of resistance are increasingly diminished. You are aware that as long ago as 1858 Rudolph Virchow, in his classical researches regarding ‘The Nature of Constitutional Syphilitic Affections,’ came to the conclusion that syphilis worked its evil effects in the organism by preference upon a *locus minoris resistentiæ*, and you know that the subsequent study of the pathology and anatomy of visceral syphilis, rendered possible by Virchow’s own pioneer investigations, has served only to confirm this doctrine.”

Here, briefly stated, we have the theoretical grounds for a belief in the increase in the frequency of the syphilitic affections of the nervous system, which direct clinical experience enables us to detect.

After some statistical data relating to the frequency of syphilitic affections of the nervous system, from which it appears that in his own practice as a neurologist, syphilitic cases (*not* including tabes and paralytic dementia) make up from one to one and a half *per cent.* of all cases of nervous (and mental) disease. Nonne gives a sketch of the history of our knowledge of syphilis of the nervous system, which begins, of course, only at the end of the fifteenth century, at the time of the first appearance of syphilis in Europe. He then passes to con-

sider the actual exciting cause of syphilis, our true knowledge of which dates only from 1904-5, from the date of the inoculation experiments on monkeys made by Metchnikoff, Roux, and Neisser, and the discovery by Schaudinn of the *Spirochæte pallida*. Although Koch's postulates have not in this case been satisfied, we can in most instances detect the spirochæte in syphilitic products, whilst in other morbid products it is not to be found; Nonne considers, therefore, that we may, in the present state of our knowledge, regard the spirochæte as the actual cause of syphilis. The probability that this is so borders on certainty. But as regards syphilis of the central nervous system in adults, the *Spirochæte pallida* has not yet been detected in the syphilitic products. In syphilitic disease of the nervous system in congenitally syphilitic foetuses, on the other hand, the organism is present in overwhelming abundance. Examination of the cerebro-spinal fluid for the organism in cases of tabes and paralytic dementia has hitherto given negative results.

The latter part of the first chapter deals with the general principles of diagnosis in cases of syphilitic diseases of the nervous system. In view of the fact that in these diseases—except, as already mentioned, in the case of hereditarily syphilitic foetuses—the *Spirochæte pallida* has not yet been found in the morbid products and has only been found in very exceptional instances in the cerebro-spinal fluid obtained by lumbar puncture, and since, further, every syphilitic manifestation of nervous disease can be simulated in non-syphilitic cases, the history of syphilitic infection is of great importance in every case. It must never be forgotten, in this connexion, that, altogether apart from the deliberate misstatements that are so common, the patient may be honestly unaware of the fact that he has suffered from syphilis. We must also remember that nervous disease occurring in a person known to have suffered from syphilis, is not necessarily itself syphilitic in nature. The probability of the nervous disease being syphilitic in such cases is, however, greatly increased by the co-existence of other unmistakable physical signs of syphilitic infection. Finally, the author considers that only a moderate weight attaches to the fact that a presumed syphilitic affection of the nervous system improves under “anti-syphilitic” treatment; and conversely, the failure of anti-syphilitic treatment must not lead us to infer that the patient's nervous trouble is not syphilitic in nature.

The second chapter deals with the pathological anatomy of syphilitic affections of the nervous system. In the first place there may be syphilitic disease of the spinal column or of the skull, the latter being much commoner than the former. Such bone disease may cause nervous affections in either of two ways, by pressure, or by extension of the syphilitic process. As regards syphilis primarily affecting the brain and spinal cord, there are three main varieties of syphilitic disease: first, syphilitic neoplasms—syphiloma or gumma; secondly, chronic hyperplastic inflammatory changes; thirdly, syphilitic disease of the vessels. The consequences of syphilitic vascular disease are not specific in character; they are those which necessarily result from interference with or arrest of the nutrition of the tissue supplied by the diseased vessels. In practice, in cases of syphilitic disease of the nervous system, we very rarely find disease which can be placed in one

only of the above categories; the lesions are a combination of all three pathological processes in various modes and degrees. In addition to these distinctively syphilitic affections, there are to be considered simple degenerative processes of manifold kinds, which on clinical grounds must be regarded as to a variable extent etiologically dependent upon a previous attack of syphilis, but which are not specifically syphilitic from the pathologico-anatomical standpoint; these typical and atypical parenchymatous degenerations are classed as post-syphilitic or meta-syphilitic (para-syphilitic) diseases. Apart altogether from the comparatively common para-syphilitic affections of the brain and spinal cord, respectively, paralytic dementia and tabes dorsalis, we meet from time to time with exceptional cases, in which the changes in the nervous system are not characteristically syphilitic—cases of encephalitis, softening, induration, sclerosis, and simple atrophy of nerve-nuclei—which we must regard as late effects of the syphilitic toxæmia.

A considerable portion of the third chapter is devoted to a discussion of the interesting question opened up more especially by cases of the kinds last mentioned, as to whether the syphilitic toxin has, in general, in certain predisposed individuals, or in certain conditions as yet unexplained, a specially poisonous influence upon the nervous tissues—similar to the affinity of lead for the motor tracts, or that of ergotin for the posterior columns of the cord. Is there a *lues nervosa*, a *syphilis à virus nerveux*? A number of considerations incline us to answer this question in the affirmative, and perhaps the most striking of these is the occurrence of tabes and tabo-paralysis in infants and young children, whose parents have had syphilis but have themselves remained free from post-syphilitic affections of the nervous system. Nonne discusses the objections that have been urged against this view, and dismisses them as inadequate. But he admits that much more information is needed before the theory can be accepted as proved. With regard to the affinity of the syphilitic virus for nerve tissue, he quotes a striking observation from Ehrmann, who has recently been endeavouring to ascertain the route by which the syphilitic virus becomes systematised in cases of Hunterian chancre of the prepuce. In two such cases, in the cutaneous nerves of the part, Ehrmann found spirochæte in great numbers, and this not in the perineurium only, but actually interspersed among the nerve fibres. Fig. 27 of the work under review is from a preparation of Ehrmann's showing this remarkable discovery. It raises interesting speculations as to the possibility of an ascending syphilitic neuritis, and as to analogies with leprosy, hydrophobia, etc. The analogies between the reputed *lues nervosa* and *lepra nervorum* ("anæsthetic leprosy") are discussed by Nonne at considerable length. While he admits that the whole question of *lues nervosa* is still *sub judice*, the space given to the question in this edition as compared to that given in the first edition of *Syphilis and the Nervous System* indicates how the doctrine is gaining ground.

Space will not permit any discussion of the 4th, 5th, 6th, and 7th chapters of the work, and we pass to consider the 8th chapter, which deals with "Psychoses and Neuroses in Syphilitics, and in those affected with Syphilitic Brain Disease." This chapter opens with the words—

"In our discussion of the subject of 'brain-syphilis' especial attention must be paid to *psychical* disturbances; first, because in true brain-syphilis manifold and frequent disorders of intellectual activity occur; secondly, because even in the absence of gross organic changes in the brain we observe in syphilitic patients, and in association with syphilis, various mental disturbances both typical and atypical; and thirdly, because in the great majority of instances paralytic dementia, a disease of overwhelming practical importance, is to be regarded as a post-syphilitic disease of the brain."

This passage gives the keynote of Nonne's treatment of the subject under discussion. In works on mental disorder syphilis often comes under consideration; the alienist has to deal with this disease from the alienist's point of view, as it affects the etiology, pathology, diagnosis, and therapy of the insanities. But here it is from the standpoint of the syphilologist that we have to consider syphilis in relation to mental disorder.

There are five ways in which syphilitic infection may lead to disturbance of the intellectual functions; first, it may lead to nutritive disturbances by causing changes in the composition of the blood; secondly, it may lead to nutritive disturbances by inducing changes in the bloodvessels; thirdly, the toxin or toxins produced during syphilis may have a directly deleterious effect upon the nerve-elements themselves; fourthly, psychical causes connected with the syphilitic infection (syphilobia, etc.) may lead to disorder of the intellect, and the influence of these psychical causes is likely to be more potent in individuals in whom the brain has already been damaged in one of the three ways first enumerated; fifthly, we have to take into account the possibility of psychical disturbance resulting from the deleterious effect upon the nutrition of the brain of the remedies used to combat the syphilitic infection, more particularly mercury and iodide of potassium. As with mental disorder in general, so also in respect of insanity following syphilitic infection, it is inaccurate to speak of a single cause; the etiology of insanity is always complex. Changes in the blood itself, changes in the bloodvessels, the psychical trauma to which in many persons the idea of syphilitic infection gives rise, the hypothetical nerve-toxin inducing "*syphilis à virus nerveux*," and the varying individual susceptibility to disturbance of brain function by mercury and the iodides—all these influences may co-operate in varying proportions to produce mental disorder. And obviously, in every case, other factors of insanity—*anxiety, sorrow, alcoholism, hereditary predisposition*—may all play their part, in addition to the directly evil influences resulting from syphilitic infection.

From these preliminary considerations Nonne passes to deal with the different forms of disorder of cerebral function which may result from syphilis. These are the following:

1. *Simple nervousness*.—Not infrequently do we find that after infection with syphilis persons previously healthy exhibit signs of general nervous disorder; impaired sleep, heightened nervous irritability, diminished power of clear thought and of attention, etc. It is of practical importance to note that such symptoms, occurring in those who have been infected with syphilis, in the absence of definite mani-

festations of that disease, often yield to a course of anti-syphilitic treatment.

2. *Cerebral neurasthenia*.—Here also it is seldom that a single cause is operative. Nutritive disturbances, alcoholism, hereditarily diminished powers of resistance, etc., combine with the syphilitic virus to give rise to cerebral neurasthenia.

3. *Hysteria*.—Charcot was one of the first to lay stress on the fact that the virus of syphilis ranks with other poisons, such as alcohol, lead, and arsenic, among the "*agents provocateurs*" of hysteria. But before we can infer with any confidence that hysterical manifestations are due to syphilitic infection, we must first satisfy ourselves that the patient was free from such symptoms prior to the infection; and secondly, that improvement or cure follows anti-syphilitic medication.

4. *Chorea*.—Here the same conditions must be fulfilled; and chorea is, in fact, a rare result of syphilitic infection.

5. *Epilepsy*, on the other hand, is intimately related to syphilis. If we exclude from consideration, first, symptomatic epilepsy, the result of severe syphilitic organic brain disease; and secondly, the eclamptic seizures which occur as manifestations of paralytic dementia, we encounter in addition to these a number of cases which symptomatically may be indistinguishable from ordinary "idiopathic epilepsy," but which are, in fact, the result of syphilis. This "parasyphilitic" epilepsy ranks with tabes and paralytic dementia among the manifestations of the degenerative effects of the syphilitic virus on the nervous system; they are forms of "*lues nervosa*." These three diseases do not belong to the chapter of true syphilitic organic disease of the central nervous system; it is not by pathological anatomy that their dependence upon syphilis is shown. The relationship is proved rather by etiological and clinical considerations. An obvious objection to this doctrine is that inasmuch as syphilis and epilepsy are both common diseases, it is only to be expected that they should sometimes occur in the same individual. But cases of epilepsy following syphilis, cases in which inheritance, psychical trauma, head injury, alcoholism, and every other known cause of epilepsy can be excluded, are sufficiently common to provide an answer to this objection. Moreover, these cases occur at a time of life at which "idiopathic" epilepsy very rarely begins. Unfortunately this parasyphilitic epilepsy shares with tabes and paralytic dementia the characteristic of being refractory to anti-syphilitic therapy. Still, these measures should always be tried, and in exceptional cases will be found successful. The symptomatology of this parasyphilitic epilepsy resembles that of "idiopathic epilepsy" rather than that of "cortical (Jacksonian) epilepsy."

6. *Hypochondriasis*.—The simplest cases are those of a pronounced syphilophobia, the details being coloured by the perusal of quack treatises or genuine medical works. Medical men suffering from syphilis are often affected by such syphilophobia. The hypochondriacal cases are sometimes complicated by fixed delusions, passing into cases of hypochondriacal paranoia.

7. *Melancholia*.—There is no characteristic syphilitic melancholia; but melancholia resulting from syphilitic infection often yields quickly to anti-syphilitic medication. Here, however, we must avoid hasty

conclusions, remembering that the tendency of melancholia in all cases is to spontaneous remission. Moreover, melancholia occurring in the degenerative period of life must not readily be supposed to depend on syphilitic infection.

8. *Mania*.—It is unquestionable that pure mania may occur in persons who have had syphilis, but who are at the time free from other symptoms of syphilis, in the absence of psychopathic hereditary taint and of any history of previous attacks of mania; but mania may also result from organic syphilitic disease of the brain.

9. *Alternating Insanity or Manic-depressive Insanity* may also occur in syphilitics and in cases of brain-syphilis.

10. *Paranoia*.—The same applies to this form of insanity. The occurrence of hypochondriacal paranoia in syphilitics has already been mentioned.

11. *Amentia* may occur in syphilitics, with or without syphilitic brain disease.

12. *Dementia*.—This is the commonest form of mental disorder met with in persons who have suffered from syphilis. It may arise in various ways. Frequently it is the terminal stage of hypochondriasis, melancholia, mania, or paranoia. Some writers go so far as to say that for these psychoses to pass on into dementia is "characteristic of syphilitic psychoses"; this statement of the case is inaccurate, but there is no doubt that such a termination is extremely frequent. Dementia also results in many cases from diffuse syphilitic organic brain disease, affecting the meninges, the brain-tissue itself, or the cerebral blood-vessels. We also meet with a primary dementia in syphilitics, and these cases are often difficult to distinguish clinically from certain types of paralytic dementia. This primary dementia may be, and most commonly is, progressive; it may remain stationary, especially as a result of anti-syphilitic therapy; finally, recovery may occur, but it is in these cases extremely rare, and in most instances of the so-called "cure" of syphilitic primary dement, careful observation will enable us to detect persistent defects of intelligence. Primary syphilitic dementia either takes the form of simple intellectual weakness, or else manifests itself rather in the form of ethical defects—coarseness, brutality, mendacity, egoism, or tendency to alcoholism or extravagance.

It will have been seen that in his enumeration of the possible effects of syphilitic infection, Nonne has gone through the entire nosology of the disorders of the higher cerebral functions. And, in fact, in summing up this chapter of his work, he says that the question, "Are there specific syphilitic mental disorders, diagnosable as such from their symptomatology alone?" must be answered definitely in the negative. His own experience leads him to agree with all those who have made a special study of the relationships between syphilis and insanity, that there is no such thing as a specific syphilitic psychosis. On the other hand:

"From the diffuse clinical states dependent upon a general nutritive disturbance of the brain, and the various forms of simple psychoses with no known anatomical basis, to the psychoses arising from localised or diffuse organic diseases of the brain, . . . there is no form of psychical disorder which may not come under our observation as a result of syphilis."

Thus we see that it is as true of psychiatry as it is of dermatology and of most other branches of medicine and surgery, that "syphilis is the great imitator," and that in deciding whether the particular disorder under observation is or is not due to syphilis, we must be guided, not by symptomatology alone, but by a comprehensive view of the history, the etiology, the pathology, and the subsequent course, of the case under review.

The ninth lecture is mainly devoted to a discussion of the important and interesting question regarding the relationship between syphilis and paralytic dementia. At the outset the author expresses his opinion that paralytic dementia is not a specific syphilitic disease of the brain; but, on the other hand, the relationships between the two diseases are manifold and intimate, and the question is one to which great attention is being paid at the present time. He regards it as definitely established that paralytic dementia has of late years become much more prevalent than formerly. Mortality statistics do not afford a trustworthy guide to the frequency of the disease, in the first place because the majority of paralytic demented die of complications of the primary disease, and secondly because a number of patients die without the true nature of the disease having been recognised. And this last happens more often than formerly because it is above all in the simple dementia form of "general paralysis of the insane" that the greatest increase has taken place. Two important additional clinical facts regarding paralytic dementia manifested during recent years are, first, the unmistakable tendency of the disease to appear at an earlier age than formerly, and secondly, the greater proportion of women that now suffer from the disease.

The causes of the increasing prevalence of paralytic dementia, and of the changes in the age-incidence and sex-incidence of the disease, are by some found in the increase in the influences unfavourable to the integrity of the nervous system which characterise our life to-day, among which the wider diffusion of alcoholism and the more eager pursuit of pleasure and self-indulgence are all-important; but others find in the increasing prevalence of syphilis an explanation of all the facts above mentioned.

Apart from statistical evidence as to the frequency with which general paralytics have suffered from syphilis, as to which very different reports are given by different observers, among the most important clinical facts showing a close relationship between the diseases in question are as follows:—General paralysis in children and young persons can almost invariably be shown to occur in congenital syphilitics, or to ensue upon syphilis acquired in infancy. As with tabes, so also with paralytic dementia, when these diseases occur at a more advanced age than is usual, it can in most instances be shown that the patient also acquired syphilis later in life than is common. In autopsies on general paralytics, obvious syphilitic brain disease is found in a considerable proportion of cases. General paralytics appear to be immune to syphilitic infection (von Krafft-Ebing), and as far as we know such immunity depends on a previous attack of syphilis. To these important considerations, a new one may now be super-added:

"The question as to the relationship between paralytic dementia and

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syphilis is nowadays intimately connected with the question of the lymphocytes and the globulin content of the cerebro-spinal fluid and also with that of the antigen reaction of the blood and the cerebro-spinal fluid (Neisser, Wassermann, and Plaut). In no other disease of the nervous system are pleocytosis, an increase in globulins, and the *Komplement-Ablenkungs-Reaktion* in the blood and the cerebro-spinal fluid, more regularly found than in cases of tabes and paralytic dementia, and this new clinical experience provides important evidence in favour of the syphilitic nature of paralytic dementia (and tabes)." (I may mention in passing that the papers of Ford Robertson and McRae on general paralysis and tabes dorsalis, published in the JOURNAL in July and October, 1907, do not appear to have come under the author's notice. The only reference in Nonne's book—a very brief one—to Robertson's work, on page 307, appears to be based on the latter's paper in the *British Medical Journal*, of June 29th, 1901.)

Nonne then passes to consider opposing views. Among German authorities disinclined to accept the doctrine that paralytic dementia is solely or even mainly due to previous syphilis, Näcke is one of the most vigorous. He bases his objections largely on the ground that sufficiently careful statistical investigations show neuropathic inheritance in a very large proportion of cases. Again, most experienced observers record cases of paralytic dementia in persons in whom they believe that previous syphilitic infection can be confidently excluded. Further, it must be admitted that pathological anatomy does not provide much support for the doctrine of the dependence of general paralysis upon syphilis. Finally, the failure of anti-syphilitic medication to do good in cases of paralytic dementia is considered by some to negative the idea of a connection between the two diseases. The counter-arguments to all these objections are so obvious that it is hardly necessary to dwell on them. The last objection applies equally, of course, to all the supposed "para-syphilitic" disorders; and, as Nonne points out, no one doubts the dependence of post-diphtheritic paralysis on the toxin of diphtheria, notwithstanding the fact that antitoxin is useless for the relief of this condition. It is certain, he concludes, that—

"Much depends upon the individual disposition of the brain. The organisation of the brain determines whether, after infection with syphilis, a man becomes neurasthenic merely, or prematurely arteriosclerotic, or has a gumma in his brain, or becomes a paralytic dement . . . In fine, most authors conclude that syphilis is of preponderant importance to the development of paralytic dementia, but that the former is not a *conditio sine qua non* of the latter."

Nonne concludes his discussion of this question with an interesting account of Spielmeyer's work on the clinical and anatomical relationships between paralytic dementia and sleeping sickness, with especial reference to the close biological relationship between the *Spirochaete pallida* and the trypanosomes.

As regards the possibility of cure in cases of general paralysis of the insane, Nonne does not speak dogmatically, but he details a number of remarkable cases of which he says with truth that they would unhesitatingly have been diagnosed as paralytic dementia, had their termination proved unfavourable.

The tenth, eleventh, and twelfth lectures deal with various affections of the spinal cord, which need not here be considered. Nor is it necessary to say much about the able discussion, in the thirteenth lecture, of the relationship between syphilis and tabes dorsalis, since the arguments are naturally a repetition, *mutatis mutandis*, of those we have already dealt with regarding paralytic dementia—for the clinical and statistical considerations are identical in the case of both these “para-syphilitic diseases,” and further, Nonne definitely expresses the view, now so widely held, that tabes and general paralysis of the insane “are alike in their essential nature, and differ only in their localisation.” Thus it is that just as general paralytics are immune to the experimental inoculation of syphilis, so “no one has ever come across a tabetic suffering from recent syphilis.” The patients are immune in both instances, because they have had the disease before. Nonne, in fact, is inclined provisionally to accept the hypothesis, which in Germany was first advocated by Strümpell, that these para-syphilitic nervous affections are produced by a syphilitic toxin, which has an elective influence on particular regions or tracts of the cord and brain. It may be observed in passing that this theory does not conflict with the possible truth of the views of Ford Robertson and McRae, that the immediate cause of tabes and general paralysis is a toxin produced by certain “diphtheroid bacilli.” We may suppose, either that previous syphilis paves the way for the growth of the diphtheroid bacilli, which are not as a rule able to flourish in those who have not suffered from syphilis; or we may assume, and this seems the more plausible view, that the hypothetical syphilitic toxin predisposes certain nerve-tracts or regions to degeneration, but that the toxin engendered by the diphtheroid bacilli is needed to complete the process. If we further suppose that in exceptional instances the toxin of the diphtheroid bacilli is competent, acting alone, to induce tabes or general paralysis, the cases in which these diseases occur without antecedent syphilis are explained. But much further investigation will be required before such hypotheses can be regarded as established. Before dismissing this subject, Nonne remarks, again following Strümpell, that those who deny that syphilis is the most important causal antecedent of tabes and general paralysis, should endeavour to find a country or a class of the population in which the latter diseases are prevalent although syphilis is rare or unknown! But if, as appears to be the case, general paralysis and tabes are on the increase especially in those communities in which the more undesirable characteristics of “modern” life are predominant, we have to accept the joint causation summed up by von Krafft-Ebing in the phrase “syphilisation and civilisation.”

The fourteenth lecture discusses cerebro-spinal forms of syphilis; the fifteenth, syphilitic affections of the peripheral nerves; and the sixteenth, congenital syphilis and the nervous system. It is remarkable to learn, from a reference in this last lecture (pp. 556–7) to the “nervous form of rickets,” that Nonne appears to share the view, not uncommon on the Continent, that rickets is a manifestation of congenital syphilis. English authorities have never accepted this view. As Hutchinson says (*Syphilis*, p. 408), “The typical forms of rickets are constantly met with in conditions which do not lend the slightest support to the

suggestion of syphilis"; and Cheadle remarks, "syphilis modifies rickets, it does not create it."

The sixteenth lecture is devoted to the question of treatment, whilst the two last lectures, the eighteenth and nineteenth, deal fully from the clinical, though not from the technological point of view, with cyto-diagnostic methods, to which during the last three years the author has given considerable personal attention. He considers the demonstration of a high degree of lymphocytosis of the cerebro-spinal fluid a most valuable addition to our means of diagnosis in early and doubtful cases of tabes and paralytic dementia.

In concluding this brief review of Nonne's exhaustive and interesting work on *Syphilis and the Nervous System*, I venture to express a hope that it will before long be translated into English.

M. EDEN PAUL.

Contributions to the Pathology of the Metabolism in the Psychoses; Second Part—Epilepsy [Beiträge zur Pathologie des Stoffwechsels bei Psychosen; Zweiter Teil—Die Epilepsie]. By Dr. MAX KAUFFMANN. Jena, 1908. Pp. 199, 8vo.

It is indeed difficult to group under one nosological term a symptom which has so many causes and so many endings, and is complicated with so many diseased conditions.

The author gives us in detail his studies in this disease, which are very thorough, entering into the whole pathology of epilepsy, and describing a number of cases.

He has made many careful examinations of the temperature and pulse, and the state of the urine and other excretions in epilepsy. He has found much increase of indican in the urine of epileptics, sometimes as much as one gramme daily. He does not think that this is produced through fermentation in the intestinal canal and favours the idea that the indican is increased under nervous influences.

Kauffman considers experiments on animals of little use towards explanation of the pathology of epilepsy, as the human brain is much readier to react to stimuli.

He has observed cases of genuine epilepsy where no lesions have been found after death, and thinks that the changes in the nerve-cells and fibres described by some pathologists follow long-continued attacks without having been causes. Like some previous neurologists he is disposed to assign to epileptics a primary constitutional weakness or convulsibility.

Most interesting are his observations on the states of the blood in the disease toxæmia and the production of autotoxins. His researches are mainly carried on by chemical examinations.

He finds no abnormalities by the microscopic examinations of the blood. Many of his observations and tables can scarcely be followed by the reader, but will be useful for those who make original researches in the same field.

Coming to therapeutics, Kauffmann considers that curative effects of bromine are only realised when a slight narcotic effect is produced.

The best results are obtained against epileptic attacks at an early age. Albertoni and Rosenbach have shown that bromine in large doses dulls the irritability of the brain, as shown by experiments with electricity. I have observed that in cases of epileptic idiocy, the bromides have sometimes a dulling effect upon the intelligence, and injure the walking power. Scattered doses have no visible effect. Binswanger prescribes at first medium doses of from 5 to 6 grms. He considers the suspension of the reflex of the trifacial nerve to be a sign that a real narcosis has been reached.

Dr. Kauffmann has some hopes from the action of catalytic forces, as in platinum and palladium. Krainski has recommended carbonate of lithium, which seems still on its trial.

WILLIAM W. IRELAND.

Das Gedächtnis [Memory]. By VON TH. ZIEHEN. Berlin, 1908. Pp. 50, 8vo. Price 1 mk.

At the opening of the Kaiser Wilhelm's Academy for the training of military surgeons Dr. Th. Ziehen delivered an address upon memory, a subject which has attracted the attention of thoughtful men from the earliest times. With characteristic thoroughness the German professor goes over the history of speculation from Empedocles to Munk; his learned notes, which fill sixteen pages, form an interesting part of the pamphlet. Indications of memory have been discerned in insects, such as bees. In vertebrate animals memory plainly appears in fishes, in which there is a rudimentary pallium with nerve-cells. When the ventricles of the brain were discovered the Greek and Arabian physicians fancied that these cavities might serve for storing mnemonic images. Hume thought that reminiscences were faint revivals of objective impressions, and we do not see how Dr. Ziehen refutes this by comparing the vividness of the remembrance of the impressions of different kinds, such as dull or very bright colours. He observes that in ordinary conditions unpleasant impressions pass away from the memory more quickly than agreeable ones, though in melancholia the power of reproduction of pleasant memories is cut off.

Dr. Ziehen rejects what has been called "unconscious cerebration" and sometimes "subliminal consciousness." It is only, he says, "a play with words—wooden iron—for if we take from psychical operations their only criterion, their conscious character, nothing remains but a contradiction." He claims that physiological research has now shown that mnemonic images are localised in a different part of the brain from perceptions. In a somewhat critical spirit he goes over mind-blindness and word-deafness. It is only when he comes to sensory aphasia that he feels firm ground. As he expresses it: "Word-blindness or alexia is nothing else than a special kind of mind-blindness, and word-deafness, or sensory aphasia, is but a special kind of mind-deafness."

Dr. Ziehen gives many interesting speculations, for which we must send the reader to the pamphlet itself. In conclusion it may be said that although he brings to this interesting subject all that physiology and pathology teach us, the author is constrained to acknowledge that

the difficulty of explaining mental processes by physical changes is not yet got over. Plato, he tells us, compared memory to a cage full of birds; the bird we hold in the hand is the thing we remember at the time; the others we can get at some way. Gassendi likened memory to a cloth which had been folded and which readily takes again the same folds. But then, with Plato's illustration, we have the person who sees and holds the birds, and the cloth does not recognise its own folds. Memory may be accompanied by changes in the brain, but we have to explain how these changes recognise themselves or are recognised.

WILLIAM W. IRELAND.

Sammlung Kleiner Schriften zur Neurosenlehre. Second series. By Professor SIGMUND FREUD. Leipzig and Vienna: Deuticke, 1909. Pp. 206, 8vo.

In this second series of essays bearing on his doctrine of the nature of hysteria and other allied neuroses, the well-known Viennese professor has included much of a more specialised character than marked the first volume. Half the book is occupied by the long, elaborate, and highly characteristic "Fragment of Analysis of a Case of Hysteria," which has already received mention in the "Epitome" of the Journal. Among the studies included in the volume are a discussion of the hysterical fit in its possible sexual relationships, a paper on the sexual enlightenment of children, an exposition of the chief sexual theories spontaneously evolved by children, a suggestive though debatable essay on so-called "civilised" sexual morality in relation to modern neurotic conditions, and some speculations on day-dreaming as related to the poetic imagination.

The author displays his usual charm of exposition, and is throughout subtle, out-spoken, and convinced, if not always convincing. Many readers will not fail to find themselves opposed, even violently opposed, to some of his methods, and to not a few of his opinions and conclusions. But a collection of bald platitudes is not always the most helpful and stimulating reading. In any case, those who seek such reading must not interest themselves in the efforts of the pioneers who are attempting to penetrate unexplored fields of neuro-psychology. Among these pioneers Freud is one of the acknowledged leaders.

HAVELOCK ELLIS.

Part III.—Epitome.

Progress of Psychiatry in 1908.

AMERICA.

By W. McDONALD, Jun.

To discern ever a forward movement in the confused activity of so new and intricate a branch of science there is need of hopefulness and faith as well as accurate insight. One must be a confirmed optimist,

for there are moments when a narrow and one-sided view might lead to the conclusion that the signs of the times point backward to promise unfulfilled.

Regard, for example, the present status of that much advertised departure in psychotherapy of which so much was heard a year ago. Beginning with the "Experiment in Practical Religion" under the inspiration and directorship of Dr. Worcester and his associate Dr. McComb at the Emmanuel Church of Boston, the movement quickly received the support of many of Boston's leading physicians, and, under this impetus, spread like wildfire. Widely heralded by newspapers and magazines it aroused the attention of the whole country. The unfortunate outcome predicted by a few may already be seen by the many. The writer has been informed that Dr. Worcester is himself shocked and grieved at the unlicensed and utterly foolish proceedings carried on under the name applied to the work begun at Emmanuel Church.

There is no mistaking the harm done, for it may be noted daily by the practising neurologist and psychiatrist. Patients everywhere now prate of *suggestion*, *auto-suggestion*, and *hypnoidal* methods of cure. They come with the words *mental synthesis*, *sub-consciousness*, and *submerged ideas* upon their lips, wondering that the physician, through the conjuring with such names and the laying on of hands, is unwilling to promise cure from all forms of bodily and mental ill. As might have been expected, charlatans have reaped a rich harvest from the child-like faith of that multitude of sufferers ever ready to seize upon any new and mysterious method of treatment.

Injury has come, however, not alone from the quacks, but from well-meaning men and women. The seductive *laying on of hands* which has attracted the suggestible and over-sentimental of every age and country, that gentle stroking of foreheads, the molly-coddling in quiet, darkened rooms, the cant of pseudo-science—these means and methods at the hands of the ill-advised have been used with disastrous results.

Perhaps the greatest damage has been done to those patients whose minds, already directed in morbid grooves, were subjected to treatment which only served to fix the attention more firmly on the phobias, the obsessions, the unhealthy notions and emotions. An example from personal experience will illustrate this class of victims.

An unusually intelligent girl of twenty, exhausted in mind and body from a long unbroken chain of pernicious experiences, was sent for treatment to one of the prominent exponents of Dr. Worcester's theories. Instead of tactfully diverting the attention, nursing the patient, prescribing baths, rest, occupation, fresh air, sunshine, or other common-sense treatment appropriate to the restoration of a tired brain and nervous system, she was required to report for treatment in a darkened room where, according to the testimony of the patient herself, the religious healer gently stroked her forehead, explaining to her the nature of the obsessions with which she was being tormented, and bidding her to repeat to herself, "I am going to get well, I know I can get well." It would seem that the mental effort required for the pursuance of the pastoral psycho-therapeutics merely intensified the exhaustion; for at this writing she is in a hospital in a state of stuporous retarda-

tion, reiterating slowly, "He told me to say to myself 'I am going to get well,' but I know I can never get well again." She will probably recover in time, but had the gravity of her condition been recognised and properly treated it is not unlikely that the simple psychasthenic condition would never have progressed to the serious psychosis with which she is now afflicted.

Association tests have been much in vogue in America of late, especially the method of psycho-analysis of Freud. Apparently they are being employed in some form—at least in selected cases—in the majority of psychiatric hospitals. The published reports commonly mention the results of these tests as though they formed a part of routine examination for various types of mental disorder.

Inasmuch as anything which adds to the thoroughness of examination should be welcome, it is, perhaps, unwise to criticise this innovation. No matter how inadequate the tests may be in fulfilling the purpose for which they were designed they must necessarily give much general information concerning the character of the mental disorder and of the speed, facility and type of ideation. And yet it is to be regretted that so much of the energy expended in investigations of this sort is being misdirected. The wave of popularised psychology and psychiatry which has been sweeping over the country of late and which has found expression in so many lay publications has not only stimulated the curiosity of the public at large, but has also apparently reacted on certain men of science, tempting them to forsake the sober paths of plodding endeavour for the quest of the dramatic. It is scarcely believable that in the response to a series of test words anyone should expect to find the underlying cause of a mental disorder or that in the resurrection of a forgotten idea or hidden emotion the etiology of a mental disease could be revealed. It is the old fallacy of placing the cart before the horse. No matter how large a part the sexual instincts, sentiments and ideas may play in normal and abnormal thought, no matter how essential may be the other instincts which have become perverted in the progress of disease, it is illogical to expect to find the source of the disease in the mental content itself. So far as association tests lead to the study of the past experience of the subject in relation to the inherited mental constitution and acquired disposition great benefit may be derived from them but, considered alone, they are of little value.

Criticisms, such as the above, may only serve to strengthen an opinion already perhaps too well established in British minds concerning the radical and often misdirected enthusiasm of American workers. Nevertheless, it should not be forgotten that in America at all times a steady, sober work is being carried on toward the furtherance of all that is worth while in psychiatry. We are getting away from the old stereotyped and dogmatic ways of dealing with patients. Theory is giving way to practical aims. While there are—and will always be—men who follow blindly any leader who happens to bring forth anything new there are many others who, regarding the vineyard broadly, have gone forth to the work with willing hands and judicial minds. While they appreciate the good in such theories as those of Kraepelin and Freud and are ready to take advantage of any far-reaching psycho-therapeutic

movement, such as that originating at the Emmanuel Church of Boston, they are still capable of productive independent effort. Perhaps the most significant feature of the progress in America is the establishment of psychiatric clinics in connection with medical schools, where young men preparing for the practice of medicine may receive really scientific instruction as to mental disease and its treatment. In addition to the clinics at Ann Arbor, Boston, and Toronto, we are now to have yet another at Baltimore in connection with Johns Hopkins Hospital. On the 12th day of June, 1908, Mr. Henry Phipps offered to that hospital the funds necessary for the erection and equipment of a psychiatric hospital. He also arranged to provide for the maintenance of the hospital and of a professorship for a period of ten years from the time of the opening of the hospital. This offer was accepted by the trustees of the Johns Hopkins Hospital on July 17th, and it was further resolved that the donor be requested to allow the new psychiatric clinic to bear his name in perpetuity as one of the departments of the Johns Hopkins Hospital.

The trustees of the University also united in appointing Dr. Adolf Meyer, Director of the Pathological Institute of the State Hospital of New York, to the position of Director of the Clinic and Professor of Psychiatry in the Johns Hopkins Medical School. Dr. Meyer has accepted the Professorship of Psychiatry and the Directorship of the Clinic. No one better fitted could have been selected, and the success of the enterprise has thus been assured. Dr. Meyer writes me that the plans are nearly finished for a hospital of about eighty patients with adequate laboratory facilities.

Much might be said in regard to the after-care work which is being carried on in intelligent and practical ways in a number of States, notably in Massachusetts. A new departure along these lines has recently been instituted in a rather remarkable way.

Mr. Clifford Beers, a recovered patient, in the book recently published—*A Mind that Found Itself*—suggested the creation of a national society having for its objects the study, prophylaxis, and treatment of mental disease. The society has already been formed under the name of "The Society for Mental Hygiene in Connecticut." Though it is still somewhat early to form a positive opinion as to the benefits to be derived from this departure, it may be said that the movement promises fair to carry the work of the hospitals beyond their present confines, and to put the leadership and the necessary outside work into the hands of competent collaborators.

Dr. Stoddart's *Mind and its Disorders* will create an excellent impression upon American alienists and doubtless have a large sale in this country. It is the kind of book by a British author for which we have been looking for some time, a happy compromise between the conservatism of Great Britain and that attitude of acceptivity, especially, perhaps, towards wares "made in Germany," which has characterised American psychiatry in recent years. The difference is well illustrated in the literatures of the respective English-speaking countries, but Dr. Stoddart's book is distinctly a *rapprochement*. His point of view is generally sound, and he is strong and hopeful on treatment. And it is evident that while the author is what we should call up-to-date and

possesses an open mind, he is not too suggestible as to the German label. It may be that we need in America first the kind of connective which Dr. Stoddart has furnished. Anyhow, he has written a good book.

FRANCE.

By Dr. RENÉ SEMELAIGNE.

ACCORDING to an old saying a medicament must only be used whilst it possesses a curative power. Likewise, medical terms should only be employed when they seem to define a pathological state. Some years ago, degeneration and chronic delirium were all the fashion; now dementia præcox and manic-depressive insanity are, without any hesitation, the most frequently diagnosed. Indee, it is an easy matter to declare that a patient is a degenerate or a case of dementia præcox, though such terms are not sufficiently precise, and might be applied to various forms of insanity. The idea of manic-depressive insanity is not a new one, and originated, not only previous to Kraepelin, but even to Falret and Baillarger. Scipion Pinel, a son of the illustrious alienist, had noticed that insanity, which he called *cerebrie*, very often exhibited successive appearances of mania and melancholia, also intervals of apparent lucidity, which might allow of the patients temporarily resuming their habitual duties. In the *Physiologie de l'Homme Aliéné*, published in 1833, the same author proclaims that it is no longer correct to consider mania, melancholia and dementia as three different diseases, but that they are only different phases of the same disease, sometimes of very long duration.

Another saying asserts that plenty of good things cannot be hurtful to anyone. If such a saying is true mental science has been greatly favoured in France during the past year. Two new societies have been established for the unique and laudable purpose of assisting their ancient sister, the *Société Médico-Psychologique*, aged fifty-seven years. But why two societies, seeing that they have the same purpose? Some evil-minded people would, perhaps, pretend that it is merely a personal question, and that two societies mean two councils and a double number of officers; but everybody, of a truth, knows that ambitious delirium does not exist amongst the followers of mental science, and that though the old Latin saying, *invidia medicorum pessima*, was perhaps true of some centuries ago, it is now quite inapplicable. Notwithstanding that, two societies have been founded almost at the same time. Scientific discussions in the *Société Médico-Psychologique* are more generally theoretical; but at the meetings of the new societies members must present patients, and the cases are immediately discussed. For such purposes the meetings take place in the *Asile St. Anne*. But though the scientific purpose is quite the same, the constitution of the societies is entirely different. The *Société de Psychiatrie*, which is slightly the older, includes only thirty-five titular members, besides which there are honorary, national corresponding, foreign corresponding, and *associé libre* members. No one can be elected as titular, national corres-

ponding, or *associé libre* member if he does not obtain at least three quarters of the votes of the titular members present at the meeting ; but half is sufficient for the foreigners. If five votes are antagonistic, the election is negative. On the contrary, in the *Société Clinique de Médecine Mentale*, the number of titular, corresponding and foreign associated members is unlimited, and any member of the *Société Médico-Psychologique* is received without election. Both societies have very interesting meetings. The official journal of the first society is the *Encéphale*, the second publishes its proceedings.

The Annual Congress of French Alienists took place last August in Dijon ; Dr. Cullerre, superintendent of the asylum of La Roche-sur-Yon, occupied the chair. The presidential address was dedicated to a study of the courtiers of the time of Louis XIV from a medical point of view. Dr. Cullerre successively examined genuine psychoses, neuropathies, impulsions, mysticism, eccentricities and moral deprivation. The mental pathology of that period is especially characterised by a constitutional want of equilibrium of the nervous system, hereditary insanity, and mental degeneration with its multiple aspects, and, as occurs in every period, such manifestations take from their environment some peculiarities and aspects more or less original. The distinctive features seem to have been the unexpected extravagance, marked eccentricity, cynicism, and violence. All the instances quoted in this interesting study have been collected from memorials of the time, and prove amongst such people the nearly exclusive prevalence of the psychical and nervous manifestation of hereditary defect.

Dr. Laignel-Lavastine, of Paris, presented a report on psychical troubles arising from disorders of the glands with internal secretions. His study is divided into two parts. In the first, he attempts to trace the cerebral trouble to the glandular disorder ; in the second part, he has in view the contrary, and, instead of seeking the psychical trouble arising from glandular syndromes, he studies glandular troubles in mental diseases. He submitted for the discussion of the Congress the following conclusion : (1) There is an ætiological relationship between the disorders of the glands with internal secretions, such as the thyroid, parathyroid, hypophysis, supra-renal, ovary, testicle, and the corresponding syndromes, as myxœdema, exophthalmic goitre, *tétanie*, eclampsia, *gigantisme*, acromegaly, and syndromes of Addison, of ovarian or *diastématique* insufficiency. (2) Does an ætiological relationship exist between the same disorders and some concomitant psychical troubles of their respective syndromes ? (3) If such relationship exists, which are the psychical symptoms and the criteria enabling us to diagnose a glandular origin ? Is it permissible to recognise a glandular origin to the psychical troubles, even when the respective glandular syndromes cannot easily be estimated, as occurs with many lunatics ? (4) Even in the case of a cerebral predisposition, is it possible to admit a glandular origin in some cases of mental weakness, dementia præcox, partial delirium, and such functional disorders as hysteria, neurasthenia, psychasthenia ? Dr. Regis, of Bordeaux, thinks that there is an ætiological relationship between the disorders of the glands with internal secretions and some concomitant troubles of their respective syndromes ; the best proof of such relationship is the clinical aspect of those

psychical troubles, which seem to arise from an intoxication. According to Dr. Claude, of Paris, there is more generally a modification of all the organs, and it is impossible to assert that the cause of the troubles is a glandular change. Pathological facts are complex. It is very difficult to demonstrate clearly from a histological point of view the glandular changes which affect organs with most delicate structure. Therapeutic methods might provide valuable information, but cannot afford a strict and scientific proof of the glandular origin of the psychoses. Dr. Grasset, of Montpellier, observed that one who studies psychical troubles in glandular diseases must, as Dr. Laignesl-Lavastine did, equally study glandular troubles in psychical diseases. Dr. Leri, of Paris, made a histological examination of the thyroid in six patients, of the supra-renal in thirteen, of the hypophysis in thirteen. The result was trifling concerning thyroid and hypophysis. The thirteen supra-renal cases comprised eight general paralytics, three anxious melancholics, one mental confusion with excitement, and one case of alcoholism with mental confusion and agitation. In seven cases the suprarenals were very seriously diseased, two had moderate changes, and four were nearly normal. According to Dr. Picqué, of Paris, psychical troubles consecutive to ovarian castration might be classified amongst the post-operative psychoses, and their origin has to be searched in a prior mental state of hereditary predisposition. Dr. Dide, of Auxerre, thinks that the influence of the glands with internal secretions on psychical functions might be sought by surgical operations which constitute real physiological experiments, and by a study of the disorders presented by such glands amongst lunatics. Drs. Sollier and Chartier, of Paris, have presented the results of the treatment by ovarian or pituitary extract of nine patients who were offering different mental states (obsessions, hypochondria, melancholia, hysteria, mental confusion, dementia præcox) associated with general phenomena which might be ascribed to functional troubles of the glands with internal secretions. In eight cases they obtained good results. Drs. Claude and Schmiergeld, of Paris, have studied seventeen cases of epilepsy from the standpoint of the state of glands with an internal secretion. Disorders of the different glands were constant, but variable as to intensity and localisation.

Dr. Joffroy, professor of psychiatry in the Faculty of Medicine of Paris, died recently; his last contribution to the *Encéphale* relates to the mental disorders associated with electricity. He reports the case of a young artisan who was employed in an electrical manufactory. On December 22nd, 1900, this man received a violent electric shock; he lost consciousness for about one minute, and suffered giddiness and confusion for two minutes more, but on the following day he was able to work again. After about three weeks, he began to complain of a persistent headache, painful sensations in the ears, dizziness, etc. Some time during the following February he suddenly fell down and lost consciousness for about ten minutes. Sight and hearing progressively decayed, and in January, 1902, the patient was nearly deaf and blind. In January, 1907, *i.e.*, six years after the accident, he suffered more losses of consciousness, and in the month of May showed verbal and unilateral auditory hallucinations. Soon afterwards, he was admitted to the asylum

suffering from general paralysis. Dr. Joffroy considered this case, which had a morbid heredity (father died in an asylum, nervous mother), to be one of post-traumatic general paralysis.

GERMANY.

By Dr. BRESLER.

AN excellent example of the spread of psychiatric ideas and methods is to be found in the lectures held on the suggestion of Professor Sommer at the Psychiatric Clinic in Giessen on August 3rd to 6th, 1908, on family histories and heredity. The lectures were attended by fifty-seven people, which included twenty-one physicians, twelve teachers, seven jurists, seven parsons, four philologists, and others, coming from places as far apart as Switzerland, Holland, Russia and North America. Professor Kekulé von Stradonitz lectured upon the elements of genealogy, on descent, pedigree, and the so-called loss of ancestry (by marriages between relations). Dr. Strahl, professor of anatomy, spoke of the structure and qualities of the germinal elements, the process of fecundation and evolution, with demonstrations on anatomical preparations. Dr. Hansen, professor of botany, took the same lines as regards plant life, also illustrating his discourses by preparations and drawings. Dr. Sommer demonstrated the psycho-physic reactions and the psychic dispositions of individuals. In members of the same family similar specific reactions are observed which are characteristic. He showed original tabulated statements of reaction-times after simple acoustic and optical stimulation on their grouping in differently disposed individuals, and pointed out that by such simple comparative investigations the different expressions of the psycho-physic constitution and psychic dispositions can be established (by length of reaction time, maximum frequency and maximum dispersion of the reactions). He discussed the methods of education, the possibilities of correction by punishment, the question of natural nobility, of the selection of the fittest upon which rests the progress of culture. The professor of psychiatry, Dr. Dannemann, demonstrated by tables of heredity from the insane at the clinic, the facts of heredity and the dispositions in the insane and criminal classes, and discussed the prophylaxis of psychoses and neuroses and the treatment of psychopathically disposed individuals. It was resolved to found an association for the genealogical and physical investigation of families, especially as regards the phenomena of heredity, degeneration, and regeneration, and a committee was formed for this purpose. A detailed report of these lectures will appear in the *Clinic for Psychic and Nervous Diseases*, edited by Professor Sommer, Giessen.

At the general meeting of the German Association of Psychiatry, held on April 24th and 25th, 1908, at Berlin, the question of the terminal stages of dementia præcox was thoroughly debated. The reports of Professor Bleuler (Zurich) and Dr. Jahrmarker (Marburg) agreed, and formed a series of theses, the more important points of which

are the following : With regard to the characteristic symptoms, the name "schizophrenic" would be better than "dementia præcox." The criteria and classification hitherto used had proved unsatisfactory as regards stating a prognosis. Neither the quality of the initial states, the heredity, the classification, nor the age at which the disease began could be used to define the prognosis. Relapses could not be prognosed for cases in a state of remission, which is nearly a complete recovery ; the onset of a severe dementia could not be excluded. Katatonic symptoms, chronic or delayed until later, were bad signs. The paranoid cases did relatively better as regards dementia and the ability to work. There was no terminal state in the sense that at a certain period of the disease the disease could not become aggravated. All the groups of dementia præcox, as far as now classified, could stop at certain stages or freely progress further. A delineation of groups with regard to the degree of dementia was not possible. The primary symptoms were certain states of dulness, which resemble those of increased cerebral pressure and organic brain disease, while secondary symptoms were schizo-phrenic disorders of association, confusional states, katatonia, delusions, and states of excitement. The separation of the symptoms into primary and secondary was not identical with transitory or permanent characters. Professor Raecke (Kiel) said, at the conclusion of his paper on katatonia, that the disease did not always progress to dementia, and that the term "dementia præcox" was not correct. Professor Meyer stated that as regards the prognosis of dementia præcox, in several cases the morbid processes had come to a definite and permanent stop without reaching a considerable degree of dementia, so that at least a "social" recovery had occurred. He found that the cases which remained recovered for years comprised one-fifth to one-fourth of the katatonic variety, or one-sixth of the total cases of dementia præcox. Dr. Kreuser said that the term "dementia præcox" was much misunderstood.

Of the other papers read at this meeting the following should be mentioned : Professor Alt (Uchtsprunge) defended, in a fine discourse, the chances of recovery by asylum treatment against the extreme opinion expressed elsewhere by Director Dr. Scholz, that the curable mental diseases recover spontaneously, even under the most unfavourable circumstances outside asylums, and that the best asylum treatment can only secure the patient proper care. Dr. Brodman (Berlin) gave a report on the present state of the histological localisation in the cerebral cortex in mammals illustrated by photographs and diagrams. He showed complete topographical charts of the cerebrum in a great number of mammals corresponding to the evolution of the cortex. Dr. Fischer (Prag) demonstrated the changes in the cortex in senile dementia, the occurrence of patches, round in shape, 10-150 μ in size, consisting of a filaceous substance which is stained by the method of Bielschowsky. Dr. Reich (Berlin-Herzberge) read a paper on the symptomatology of mania, and showed the similarity which exists between child's play and the antics of maniacs, and he said haphazard association of ideas was characteristic of mania.

Dr. Siemens reported on the resolutions of the committee for the economic interests of the alienists in German public asylums (for assistant physicians, life appointments after three years' service, with

retiring allowance of the alienist, his wife and children; grants in case of accidents; lowest salary 3,600 marks [£176] per annum, rising to 7,200 marks [£352] in twenty-one years, free lodging for family, with fire, lighting, and garden produce, medicine and medical treatment; for medical superintendents, 6,000 marks, rising to 9,000 marks [£294 to £491] in asylums with 700 or less patients; 9,000 marks to 12,000 marks [£491 to £688] in asylums with more than 700 patients, with the same emoluments). Dr. Birnbaum (Herzberge) read a paper on "Fleeting Delusions in Degenerate Persons."

The Provincial Board of Brandenburg opened a new asylum at Teupitz, near Berlin, for 1,050 patients of the third and fourth class, and for 150 patients of the first and second class. The cost was 6,769,000 marks (£338,450), including accommodation for seventy-six employees and married attendants. The houses for the attendants are arranged so that they can be used for the boarding-out of patients (family care). A description of this asylum, with plans and views, is published in the *Psychiatrisch-Neurologische Wochenschrift*, Nos. 40 and 41, vol. x, December, 1908.

ITALY

By Dr. LUIGI BARONCINI.

THE scientific activity of Italian alienists is directed more and more as time goes on to neurological subjects. One finds a mass of work in the proceedings of the first Congress of the Society of Neurology, which was held at Naples in the month of April, 1908. The following is a *resumé* of the more interesting papers presented at this Congress:

Mingazzini (Roma) discussed the new theories of Professor Marie on aphasia, and demonstrated that it was impossible to detach the motor speech functions from Broca's convolution, and that the verbo-motor and verbo-acoustic centres are represented in both hemispheres, but greatly predominate in the left. He discussed the association fibres between the different speech centres, and arrived at the conclusion that a lesion of Broca's convolution and one affecting the fibres anterior to the *putamen* (outer third of the lenticular nucleus) produce the same clinical features, both being the outcome of a mechanism almost identical.

Bianchi (Naples) stated the results of his recent experimental researches, in which he stimulated and excised the frontal lobes of monkeys. Electrical stimulation caused movements of the eyes, alteration in the size of the pupils, movements of the ears—phenomena which he accounted for by the presence there of sensory functions. By extensive excision of both frontal lobes, he produced both transitory and permanent defect of cerebral activity, affecting above all the memory, attention, association of ideas, and affectivity. These experiments pointed to the frontal lobes being the association centre for all the sensory images arising in the different centres of the cerebral cortex. He finally showed that certain pathological cases in man support the conclusions arrived at experimentally.

Fragnito (Sassari) spoke of the structure of nerve-cells, with regard to which had already been demonstrated the existence of an endo-cellular network of a nervous nature, and of long fibrils which traverse the cell only, without making any connections with the endo-cellular network. A nerve-cell takes its origin from several neuroblasts, since the fibrils differentiate themselves in the cell protoplasm relatively late. The endo-cellular network presents a marked resistance to certain injurious agents (in contra-distinction to the chromatic matter) but is very vulnerable to pathological influences.

Rossi (Firenze) read a splendid report on arterio-sclerosis in the nervous system. He believes that hypertension, angio-spasm, and arterio-sclerosis are three different morbid entities. In speaking of the latter, he gave a description of its anatomical changes and pathogenesis, and of experimental arterio-sclerosis, which he concluded was very different to the clinical variety. He spoke also of arterio-sclerosis affecting the endo-cranial vessels, and the anatomo-pathological results and morbid symptoms. Of the latter, he noted two great categories according as to whether mental, or sensory and motor disorders prevailed. Belonging to the former were arterio-sclerotic dementia and arterio-sclerotic progressive pseudo-paralysis. The first of these was identical with senile dementia, which is ordinarily the outcome of arterio-sclerosis. The second category comprised arterio-sclerotic epilepsy, "la syndrome lacunaire" and senile astasia-abasia. Besides cerebral arterio-sclerosis, there was a spinal form with simple and spasmodic paralyses.

De Sanctis (Roma) brought a recent contribution to the study of infantilism. He pointed out that infantilism might be a dystrophy due to functional insufficiency of the glands with internal secretions, such as the thyroid in myxœdematous infantilism. There existed also partial infantilism, among which De Sanctis noted pseudo-infantilism, which ought to be distinguished from puerilism, paroxysmal puerilism and the puerilism of adults.

Ceni (Reggio Emilia), who has for some time interested himself in the functional relationships between the brain and testicles, related the results of his latest researches which were designed to establish the mechanism of the involution of the sexual organs in animals (poulets) which had undergone operations of the brain. The testicles underwent atrophy affecting primarily and principally the glandular elements, the changes in the interstitial tissue being secondary.

Cerletti (Roma) found in the most superficial layer of the cerebral cortex in man and other vertebrates (fixation in alcohol, stained with pironine—*vert de méthyle*), immediately under the pia mater, special elements, "anniles," semilunar or more precisely navicular in form, of a vacuolated structure which he called navicular bodies. They have characters in common with the corpuscles that Cerletti found around the blood-vessels of the brain in man and other vertebrates in both normal and pathological conditions. There is not sufficient evidence to say whether they are different forms of the same element or of a different character entirely. Cerletti brought forward the hypothesis that these navicular bodies might be confounded with certain prolongations of neuroglia which he has noted at the periphery of the cerebral tissue.

Negro and Roasenda (Torino) demonstrated that by the mechanical or electro-faradic excitation of the cerebellum in rabbits, he obtained convulsions of a Jacksonian character, and was justified in concluding that the cerebellum is able to produce epileptiform symptoms identical with those arising from the cerebrum. The motor centres in the cerebellum reacted to electro-faradic stimulation after the excitability of the motor centres in the cerebral cortex had been extinguished by stimulation of the same character. This showed that the motor centres in the cerebellum were independent of those in the cerebrum.

The attention of the great majority of our alienists is being more and more directed to the works of Kraepelin, whose clinical conceptions are being more than ever discussed and adopted, though with some modifications. Many authors have occupied themselves with the study of the ætiology, pathology, and clinical features of dementia præcox and manic-depressive insanity. Vedrani (Lucca) was the first in Italy to diffuse the ideas of Dreyfus on involutional insanity, which he teaches should be considered as a part of the clinical tableau of manic-depressive insanity. Vedrani brings to the support of Dreyfus many instructive clinical histories.

I ought to say a word regarding the good work done by Guidi (Roma) on the pathogenesis of epilepsy. In investigating organic metabolism in epileptics, he arrived at the conclusion that the nitrogenous exchanges are notably altered above all as regards the formation of the urea. There results an acid intoxication of the organism which is probably due to the accumulation of carbamic acid. The epileptic manifestations are the outcome of this accumulation, which can be demonstrated clinically.

The greater part of the researches in the field of anatomo-pathology has been directed to investigating the alterations in the neuro-fibrillar network of the nerve-cells in experimental and pathological conditions, but no definite results have yet been obtained.

The asylums of Italy are continually improving, and many provinces have built or contemplate building new ones to accommodate their insane who are at present housed in the inter-provincial asylums.

Restraint is on the high road to oblivion. In many asylums it has been restricted to exceptional cases, and in others totally abolished. Ruata (Como) and Petrazzani (Reggio Emilia) have questioned the wisdom of the latter course, and have demanded whether there are not cases in which mechanical restraint is preferable to alternative methods such as baths, seclusion, psycho-therapy and clinico-therapy, etc. Ferrari is much opposed to this.

The training of the nursing staff prescribed by the new lunacy law is bearing excellent fruit. At Imola, a school for this purpose has been founded by Ferrari, and has been well attended by young women of the middle classes. They do not enter the services of the asylum proper as in Holland, though they visit the asylum to assist in the nursing and to comfort and amuse the patients by reading, etc.

Also at Imola there has been founded a *Society of Patronage* to assist the insane poor, which has already some 200 members. They propose

to help the insane before they can be taken to the asylum and after they have been discharged ; to keep in touch with their families and to contribute to a diffusion of a proper knowledge of the causes and effects of insanity, and especially to combat the improper use of alcohol. It is to this society that the honour of having first initiated the practice of family care of the insane in Imola belongs. Ferrari presented at the International Congress on the Care of the Insane, held in Vienna, a report on the relationship between this society and family care. According to Ferrari, family care ought to be undertaken, not by the provincial administrations, but by societies of patronage, encouraged and sustained by them. It would lessen the fear the provincial administrations have of incurring heavy charges without certain good result. Family care has also been commenced at Volterra, and thirty-four insane people are lodged with families in the vicinity of the asylum.

Italian psychiatry during the past year has sustained the loss of two eminent savants : Professor Virgilio, Director of the Asylum of Aversa, who scientifically demonstrated the pathological nature of crime and advocated the institution of special asylums for criminals ; and Dr. Marchi, who will always be remembered by the histological method which bears his name.

There has been founded a new psychiatric review under the direction of Professor D'Abundo, of Catania—*La Rivista Italiana di neuropatologia, psichiatria ed elettroterapia*.

In conclusion I repeat what I said at the commencement, that our alienists during the year under review have worked by preference in the field of neurology, where the progress has been truly satisfactory, while in the province of psychiatry proper work has been much more limited. One notes, however, with pleasure a continual progress as regards the care and treatment of the insane in Italy.

SPAIN.

By W. COROLEU.

During the past year, death has been active in the psychiatric world of Spain. Dr. Dolsa, well known as Director of the Phrenopathic Institute of Barcelona, and Dr. Rodrigo Gonzalez, an accomplished and learned asylum physician, died within a short time of each other. Dr. Dolsa excelled in the legal and forensic aspect of insanity, and was an original and profound scholar. Dr. Gonzalez was chiefly famous as the founder of a practical school for the education of hospital friars and nuns, the first of its kind in Spain, where there is so much need for them. He also wrote a modest work on the *Volitional Insanities*.

The faculties of medicine are beginning to appreciate the need for the study of mental diseases, and in Barcelona, a course of somewhat desultory lectures—but better than nothing—have been started in St. Baudilius Asylum. Unfortunately, the want of professors specially trained, minimises the value of this kind of teaching, which is now confined to the physicians of the asylum. The obstinacy in not creating a chair of psychiatry, and the inclusion of the latter with the

chair of legal medicine, is a serious drawback to progress. I must mention, however, that a desirable reform has been made regarding the Army Medical Department. The course of study now includes mental diseases, with practical experience, as a compulsory subject. Dr. Fernandez Victorio, a most respected military specialist, well known because of his unique lectures on "Insanity in the Army," has been proposed as professor. By a curious anomaly in our administrative methods the Army Medical Service will be trained in a subject not taught in our ordinary medical schools.

The past year has been somewhat scanty in publications. One ought to mention, however, an interesting study of a rare character by Dr. Bravo Moreno, a forensic physician, on cases of self-accusation in connection with the recent dynamite outrages, into which snare the authorities fell. Others have written on the same subject. Dr. Lubra Marzo has published a work on *Criminal Brains*; two pamphlets have appeared on "Volition as a Brain Force," one by Professor Vallejo, and the other by Dr. Melcior; also a leaflet from the veteran Dr. Galcerán, on "Phrenopathic Diagnosis," and a memoir on the "Treatment of Epilepsy," by young Dr. Reventos. The *Phrenopathic Review* has celebrated the sixth anniversary of its foundation, and is full of vigour. Dr. Galcerán's *Archives of Nervous and Mental Therapeutics* is older still.

Work otherwise has been scanty. Even the translation of foreign works has not been undertaken, and such well-known treatises as those of Kraepelin, Ebing, B. Lewis, and Clouston are not to be found in the Spanish language. Naturally, suitable psychiatric attainments are rare among physicians, and in Gerona, two attempts to fill the vacant post of physician-superintendent have failed for want of fitting candidates.

Legislation has made no serious progress. The Secretary for the Home Department has issued a decree providing for the enforcement of certain bureaucratic regulations, a good principle being introduced that of "temporal licenses" hitherto most energetically prohibited. It is no secret, however, that all asylums have had them. There has been no further accommodation and, generally speaking, no provision whatever made for the training of mental nurses and the teaching of mental science. Some articles in a widely-read newspaper, *La Vanguardia*, by Dr. Bertran Rubio, have caused some agitation among the people for a more complete and rational legislation for the care of the insane and the abolition of the red-tape methods which actually hinder the admission of lunatics to asylums. It is thought that a move will be made by the Ministry soon, but it is curious to note that two Madrid physicians of some repute have been in the ministry without any effort being made to improve the psychiatric world of Spain.

Epitome of Current Literature.

I. Neurology.

Lesions Produced upon Nerve-cells by Traumatic Agents [*Lésions produits sur la cellule nerveuse par l'action directe des Agents Traumatiques*]. (Rev. de Psychiat., May, 1908.) *Marinesco, G.*

The author has examined the spinal cord in animals which have been subjected to repeated blows upon the vertebral column, and he found lesions in the chromatophilic substances of the nerve-cells. For the most part, this consisted of a rarefaction of the chromatophilic elements and a diffuse chromatolysis. In the nerve-cell, a part near the periphery was devoid of these chromatic particles, and the cytoplasm in the area took on a pale violet stain; in the remainder of the cell, these particles lost their individuality and were for the most part in a state of dissolution.

The nucleus was also altered, as demonstrated by a change in shape, and was of homogeneous structure with atrophy. The nucleolus was also smaller. These changes seem to disprove those described by Kirchgasser, who holds that the nucleus remains intact in lesions produced by concussion of the cord. He could not say definitely whether these changes were due to the gross lesions of the skeleton or to hæmorrhages into the nervous centres, but the former lesions were the more extensive. There were not marked alterations in the nerve-fibres.

Discussing the question of new nerve-cell formation, he states that after cauterisation of the cerebral cortex, from the third to the eighth day after the injury, he noticed karyokinetic changes in certain nerve-cells, but he had never encountered the state of metakinesis. On examining injuries after the lapse of three months, when the necrotic area had almost quite disappeared, being replaced by tissue of new formation composed of an alveolar reticulum, he had noticed large cells containing blackish granulations, but never had he come across nerve-cells of new formation. The author quotes the work of Levi, who found, after cauterisation of the cerebral cortex, a proliferation of the pyramidal cells due to the karyokinesis in the zone of tissue surrounding the cauterised region.

Active mitosis is seen from the second to the fifth day after the injury, when it becomes less, and ceases towards the twentieth day, but the multiplication of the nerve-cells does not contribute to the regeneration of the tissue. On the other hand, Vitzou admits a new growth of nerve-cells in the nerve-centres, but the general evidence is against this.

After sections of nerve-fibres, he observed that at a later date many of these ended in spheres or small knobs, which were composed of connective tissue and fine nerve-fibrils. These latter arose by division of the older fibres, and followed the direction of the satellite cells or the blood-vessels. He describes also morphological changes in various spinal ganglia after direct compression, and states that the changes resemble those which he has recorded after engraftment.

SIDNEY CLARKE.

Fibrous Tumour of the Bulb [*Tumeur fibreuse du Bulbe*]. (*Rev. de Psychiat.*, July, 1908.) *Vigouroux, M. A.*

The rare condition of a fibroma in the bulb is recorded. It occurred in a man, æt. 51, a drunkard who had received several head injuries, of which the most important and most recent had taken place six years previously, *i.e.*, a fracture of the right temporal bone. Mentally, for the eight months previous to his death, he was violently excited with hallucinations and ideas of persecution and grandeur. He died in a coma which followed a short convulsive attack of the right side. Several weeks before his death he had shown signs of defective equilibrium; he tended to fall to the left, stood on a broad base and was not able to stand erect alone.

At the autopsy no sign of the fracture could be seen, but the tumour could be seen in the angle of the bulbar protuberance, and there was some atrophy of the over-lying cerebellum, the left hemisphere weighing 30 grms. less than the right. On section it was found to be conical in shape, the base, measuring 1.1 cm. in diameter, being superior. It lay in the left lateral half of the bulb, but did not reach the tubercle. It extended to just above the decussation of the pyramids. The overlying pia mater was thickened and contained a number of vessels.

The tumour was of firm consistency but without being hard, and its centre showed no liquefaction or calcification. Although to the eye it was easily discernible, yet it could not be shelled out. It had destroyed the nerve-fibres of the left restiform body, and those of the eighth and ninth nerves, but the olive and acoustic fibres were undisturbed. No other cranial nerve nuclei were affected.

Histologically it consisted of elongated fibres joined in loose bundles, crossing each other in different directions, and in its midst were a number of congested vessels, certain of which seemed to be undergoing a hyaline degeneration. The overlying pia was thickened, congested and fibrous, and connected with the tumour, which appeared to arise from it.

The author considers it possible that the growth was of traumatic origin.

SIDNEY CLARKE.

Contribution to the Pathological Anatomy of Multiple Sclerosis, with Particular Regard to the Cerebral Cortex [*Zur pathologischen Anatomie der multiplen Sklerose mit besonderer Berücksichtigung der Hirnrindenherde*]. (*Neur. Cbl.*, Nr. 19, 1908.) *Oppenheim, G.*

The examination of the cortex of the brain in multiple sclerosis shows that there exists a peculiar condition of the affected areas, in that these contain no compact fibrous glia proliferation, but an increase of the net-like protoplasmic glia structures. Ætiologically it is of particular importance, that in three of the four cases cited there was found a diffuse perivascular infiltration of plasma cells analogous to those seen in progressive paralysis (Nissl, Alzheimer), and in trypanosomic diseases (Speilmeyer). A principal difference, however, lies in the fact that in these diseases there are very marked degenerative changes of the ganglion cells, while in multiple sclerosis these changes are inconsiderable, but in spite of this difference, the diffuse infiltration

of the vessel sheaths with plasma-cells may be accounted for in the way explained by Nissl and Alzheimer, *viz.*, as the expression of a more or less chronic inflammatory process, which points to an exogenous origin of the disease.

HAMILTON C. MARR.

The Pathogenesis of Epilepsy: An Experimental Research [Sulla Patogenesi Dalla Epilessia]. (Riv. Speriment. di Freniat., vol. xxxiv, fasc. i-ii.) Guidi, G.

In an article extending over forty pages and accompanied by a number of diagrams showing the quantities of urine, total nitrogenous excretion, amount of urea, ammoniacal constituents, etc., in several cases of epilepsy and hysteria under examination for successive days, Dr. Guidi discusses the pathogenesis of epilepsy.

In spite of numerous researches the fundamental nature of epilepsy is still obscure. There is a variety of opinion regarding the pathological findings in epilepsy. The majority of writers, however, agree in attributing the disease to irritation of the cortical centres. The source of this irritation has naturally been the object of much research. Féré attributes epilepsy to a convulsive poison in the urine of the epileptic. Agostini is of opinion that leucomaines are the source of irritation. Other authors point out that the urine before the fits is hypo-poisonous and after them hyper-poisonous; others that epilepsy is due to intestinal auto-intoxication; others, again, that the epileptic organism retains a large quantity of urea, and it is this agent that acts as a poison in the disease.

Weber is of opinion that in epilepsy the bodily tissue is modified in a pathological direction and poisons are thus produced from the secretions. The poisons act on every organ, on the vessels, the kidneys, and above all on the central nervous system.

Kransky states that the poison inducing epilepsy is carbamic acid derived from uric acid. Carbamic acid is a poison chemically intermediate between carbonate of ammonia and urea. It is produced in the transformation of the albuminoid molecule.

According to modern views, urea and uric acid have different modes of origin. Urea is formed in the assimilation of the albuminoid products of the organism, and is mainly due to ammoniacal bodies produced by the cellular elements, or formed during the digestive processes, while uric acid is derived from the dissolution of the cellular nuclei, particularly the nuclei of leucocytes.

The author made daily and minute examinations of the nitrogenous products of the urine of epileptics. The subjects were kept, some of them on mixed diet, others on vegetarian. In all cases the excretion of ammoniacal products was above normal. From a minimum the values of these products rose to a high maximum. This coincided with the epileptic attack; after fits the values continued higher for a day or so, and then they declined.

The author is of opinion that the organ which is the cause of epilepsy is the liver; that it is the organ which presides over the transformation of the albuminoid molecule. There is a deficiency in the capacity of the hepatic cells of the liver to complete the synthesis of

urea; thus ammoniacal products are excreted related to carbamic acid, especially the carbamate of ammonia. These are the poisons which excite the epileptic conditions.

Guidi found that the administration of carbonate of ammonia, while causing no increase in the amount of urea excreted, has a marked effect in increasing the amount of ammoniacal products excreted. Simultaneously the number and severity of the epileptic attacks were increased. The dose of carbonate of ammonia never exceeded five grains. In hysteria the amount of carbonate of ammonia administered was as much as twenty grains, but it had no harmful effect and did not induce epileptoid fits.

The researches of De Bucke confirm the findings of Guidi with regard to the excretion of nitrogenous products. De Bucke, however, is of opinion that the cause of true epilepsy is an auto-intoxication, due, not to the intermediate or terminal products of the tissue, such as urea, ammonium carbonate, etc., but to a true poison present in the blood and specific to epilepsy, and belonging to the character of cytotoxins. This research of Guidi is one of a number which he has made on the nature and cause of epilepsy. An extensive bibliography is given. In it he makes no reference to the work done by Haig and Turner with respect to epilepsy.

HAMILTON C. MARR.

Study of Seventeen Cases of Epilepsy from a Point of View of the Glands of Internal Secretion [Étude de dix sept cas d'Épilepsie au Point de Vue de l'Etat des Glandes à Sécrétion Interne]. (Rev. de Psychiat., Sept., 1908.) Claude, H., and Schmieregeld, A.

Changes in the ductless glands of epileptics are constant, but these vary in intensity and in site. In all cases, the authors observed changes in the thyroid gland; in twelve cases, the structure of the gland was completely changed, and they were able to note by the side of portions which had undergone atrophy and sclerosis, limited zones of the compensatory hypertrophy. Changes were also observed in the ovaries four times, twice in the supra-renals, and once in the pituitary body. In seven cases of epilepsy with dementia and organic lesions of the central nervous system, the alterations of the glands were, as a rule, less marked when compared with cases which showed no cerebral lesions, and this, the writers consider, demonstrates amongst other things that in the pathogenesis of certain epileptic crises the functional disturbance of these glands is able to be ascribed as a cause, probably as an intoxication. They consider it might be useful, when treating any particular case of epilepsy, to attempt to rectify any suspected glandular disorders by appropriate remedies.

But neither macroscopical or microscopical examinations are sufficient in themselves to state the actions of these ductless glands; it must be assisted by physiology. Changes in the thyroid, it is true, are often noted in the insane, but even if these be characteristic similar effects are not always produced.

Results from organo-therapy are often most disappointing.

SIDNEY CLARKE.

On the Mechanism of Gliosis in Acquired Epilepsy. (*Amer. Journ. of Insanity, April, 1908.*) Southard, E. E.

As summarised by the author, the theory of epilepsy expounded in this paper is founded mainly upon structural considerations. The histological data have been interpreted largely from a functional point of view. The theory lays claim to some originality in two directions—in setting forth, namely, the properties of a typical epileptogenic focus in the cerebral cortex, and the nature of that change in cortical tissue which favours epileptic discharges. The characteristic feature of a typical prime focus is described as the separation of a normal cell-group from its normal control by other cell-groups, and the impact upon the receptive surfaces of these normal cells of a steady, intimate, abnormal pressure, both segregation and compression effected by neuroglia overgrowth. That feature of cortical tissue which favours the spread of epileptic discharges is described as due to a simplification of cell arrangements, arising in the destruction of controlling elements, with maintenance of motor elements. In the production of both prime focus and the abnormal tissue which permits uncontrolled discharge the neuroglia tissue plays a characteristic part, exerting an active continued pressure in the first instance, and readily permitting lateral discharges and the activation of great groups of motor cells in the second instance.

In the former case, we see a fresh example of the irritative property of heightened tension, only here exhibited quite in miniature. In the latter instance, we are dealing with conditions of still greater theoretical interest, approximating, though with diverse outcome, the loss of insulation seen in foci of disseminated sclerosis. The findings suggest the widely different effects upon nervous tissues of active and of quiescent gliosis.

The article, which is of great interest and of considerable length, contains several detailed clinical cases and a review of the literature bearing on the subject, and is illustrated by numerous photographic plates of microscopic sections of brain tissue. A. W. WILCOX.

On the Study of Psycho-Glandular Reports [*Introduction a l'Étude des Rapports Psycho-Glandulaires*]. (*Rev. de Psychiat., Sept., 1908.*) Lavastine, L.

Since the time of Buchard the importance of intoxication, especially auto-intoxication, has been fully recognised, and many have been the attempts to elucidate the rôle played by them in mental diseases. Owing to the frequent existence of pathological changes in the ductless glands many opinions have been expressed that the mental symptoms which were noted were due to the lesions in these organs or *vice-versâ*, and a large amount of conflicting evidence is the result.

The author, in the above paper, discusses this matter, and he urges the importance of considering the subject from each point of view.

From observation one must first consider whether the case is a clinical entity and whether the ill-effects are due to an internal secretion, either increased, diminished, or vicious, or whether more than one organ is at fault. These results should be confirmed by experimenta-

tion, surgically and physiologically, but the causes of error may be very many, several of which he brings forward. After organo-therapy sero-therapy should be applied to see if the results coincide. Anatomy and pathology research must also be undertaken, for these furnish much valuable information. The interpretation of all of the results must be most carefully considered before one concludes that psychological troubles are due to altered secretions.

SIDNEY CLARKE.

2. Physiological Psychology.

Experimental Research on Suggestibility [*Recherches Expérimentales sur la Suggestibilité*]. (*Arch. de Psych.*, October, 1908.) Guidi, G.

This research comprises 217 experimental observations made upon female pupils and teachers at one of the working-class schools of Rome. It was preceded by three previous series of experiments on suggestibility bearing on the lengths of lines, presumably on the model of the researches conducted by Binet, whom the author refers to. He announces his intention of making a further publication to include these and subsequent observations, the present paper being an exposition of his method. The instrument used in these experiments was a cubical box of sheet iron, bearing a small chimney giving it the appearance of a stove. In the centre of one side was placed a hole covered by a button, which was capable of being pushed through the hole and along a passage of sufficient dimensions to admit the index finger. The button was connected with a needle which protruded on the side of the box, and indicated on a scale of 7 cm. the depth to which the button had reached. Each experiment was conducted in a precisely similar manner. A lighted spirit lamp was placed at a short distance from the box, by way of suggesting that the latter had been heated; each subject was instructed to press in the button gently with the index finger of the right hand until a sensation of heat was experienced, when she was told to indicate the same immediately. The excursion of the needle was at the same time noted, and the subject was told to say whether on pushing in the button further the sensation of heat was increased or not.

The results of these observations are given in tabulated form and in diagrams illustrating the number and percentage of suggestible cases in each class and for each year of age, the ages ranging in the pupils from six to fifteen years. These experiments show a considerable increase of suggestibility, as measured by Guidi's instrument, from the seventh to the ninth years, and then a fall; but there is a rise in the number of cases occurring at puberty. The author is inclined to the opinion that there is a diminution of suggestibility relative to the increase in intellectual development. His figures show a percentage of 41.75 in which there was evidence of influence by suggestion, the percentage being highest (62.5) in the ninth year, slowest (21.4) in the thirteenth year. The author claims that his method enables him to measure the degree of suggestibility in different subjects by observing the rapidity with which suggestion is accepted. This, which depends upon the time

taken in the excursion of the needle (approximately four seconds in travelling 7 cm.), appears to be open to considerable error as regards the compilation of statistics. On the other hand it does not detract from the practical usefulness and ingenuity of Guidi's apparatus, which, as he points out, might prove of considerable practical value in educational work.

G. F. BARHAM.

The Visualisation of Thought [*Über das Symptom des Gedanken-Sichtbarwerdens*]. (*Allg. Zeits. für Psychiat.*, Bd. 65, H. 3.) Halbey, K.

We have had cases in which patients have complained that the thoughts which occurred to them were repeated into their ears in a loud voice. Sometimes they attribute this annoyance to bad spirits, or say that their thoughts were extracted by some fanciful machinery. This has been called "double-thinking" (*doppel-denken*). In some cases optical hallucinations follow the thoughts conceived. In coining a name for this rare symptom Dr. Halbey has drawn heavily upon the alphabet. He calls it *gedanken-sichtbarwerdens*. The instance described in his paper was a student of philosophy, æt. 25, who entered a private asylum in October, 1902, and was afterwards passed into the provincial asylum of Ückermünde, where apparently he still was when the paper was written. He suffered from excitement, sleeplessness, refusal of food and progressive dementia. He complained of the voices of men and women shouting in his ear what he read and thought, and on February 13th, 1907, he first saw cobwebs floating in the air and asked the physician to take them away. Going to attend a religious service, the words of the preacher appeared before his eyes in stenographic lines floating in the air about six or eight yards off. These hallucinations followed the movements of his eyes. He had practised shorthand. Words and images which he had conceived appeared before his eyes, so that these hallucinations became more frequent than any other. A rough sketch is reproduced representing the visual images which floated before the eyes of the patient.

Dr. Klink found in his own person that after the subcutaneous injection of 1 mgrm. of hyoscine he had hallucinations of sight, and that his own words appeared so to reverberate in his ears that he was in doubt whether the words did not come from without.

Dr. Halbey discusses various explanations of these symptoms. The one with which he appears satisfied is thus given: The perception centre (in this case the visual, not the auditory one) is in a high state of excitement, so as to receive stimuli from the thinking process in the apperception cells, conducted by the association paths, and under this condition these optical hallucinations are evolved, at first taking the form of floating webs, and then passing into more definite appearances.

WILLIAM W. IRELAND.

Muscular Tone [*Mesure du Tonus musculaire à l'aide d'un myotonometre*]. (*Rev. de Psychiat.*, Sept., 1908.) Hartenberg, M. P.

The author has, with a special instrument of his own device, measured muscular tone in physiological and pathological states. He finds that in health it is more marked in the morning than at night, whilst it is

diminished under general fatigue. At first it is increased by work and local fatigue of the muscle, but it soon falls if these are continued. Elongation of the muscle lessens the tone. Faradisation, cold baths, strychnine and caffeine all made it more marked. Lastly it bore no direct relation to the dynamical force. In pathological states it is augmented in spasmodic tabes, insular sclerosis and contractures, whilst the reverse is noted in the myopathies, chorea, and flabby hemiplegia.

SIDNEY CLARKE.

Researches on the Reducing Power of the Urine in Maniaco-melancholic Insanity [*Ricerche sul Potere Riducente delle Urine nella Frenosi Maniaco-depressiva*]. (*Il Manicomio, Anno xxiv, No. 2, 1908.*) Pini.

In continuation of other researches which he has made regarding the modifications of metabolism in mental disease, Dr. Pini records in this paper the results of an investigation into the reducing power of the urine in six cases of maniaco-melancholic insanity (Kraepelin) approximating to the type of *folie circulaire*. Control experiments were made on ten normal individuals. The method used for estimating the reducing power was that introduced by Helier (*Comptes-rendus de l'Académie des Sciences*, 1899), and modified by Lucatello, in which permanganate of potash is the oxygenating agent. The results are given in a series of tables showing for several periods of six days the reducing power (measured in cubic centimetres of the deci-normal solution) of the total volume of urine passed in the twenty-four hours, absolutely and relatively to the body-weight, and also the absolute and relative amount of the urea excreted. It appears pretty distinctly from the figures that, as compared with that of normal individuals, the urine of patients in the excited phase of circular insanity has a much higher reducing power. In the depressed stage, this is also found, but in a very much lower degree. In correspondence with this result the amount of urea excreted in the twenty-four hours was considerably under the average in both phases of the circular disease. The paper is chiefly of interest with reference to the differences in metabolism in gay and depressed motional states in the same individual.

W. C. SULLIVAN.

3. Ætiology of Insanity.

The Influence of Season on the Organism [*Contribution Statistique à la Réaction de l'organisme sous l'influence Physico-Chimique des agents Météorologiques*]. (*Arch. d'Anth. Crim., Feb. 15th, 1909.*) Gaedeken, P.

Dr. Gaedeken, of Copenhagen, here brings forward a very interesting and original contribution to a much-debated question. It has long been known that the second quarter of the year has a marked influence in increasing various social phenomena of nervous and psychic character, notably suicide, the onset of insanity, conceptions, and sexual offences. A number of explanations of different order have

been put forward to explain this fact. Gaedeken shows himself very familiar with these theories and with the literature of his subject in many countries (Dexter's monograph is perhaps the most important omission); he has, moreover, procured statistics, unknown to most investigators, from widely separated and comparatively little-known lands—Greenland, Finland, Servia, Venezuela, etc.—while he makes full use of the Danish statistics he has had special facilities for procuring. By the use of these statistics derived from lands where both the social and the climatic phenomena widely vary, he is able to show that none of the current theories will satisfactorily answer all tests. His own theory is that of a fellow-countryman of Finsen. He believes that the exciting influence is due, not to the first heat of the year—for the influence exists in the extreme north where there is no heat till June—but to the chemical rays. This explains, he believes, why it is that in Finland and Norway there is a special increase of suicides and allied phenomena in April, although the onset of warmth is much later. It appears, however, that in spring the sun's chemical rays in the north are peculiarly powerful (greater in the arctic circle than in Vienna, under the same conditions of sun and sky), and this is heightened by the absence of damp and dust. Pigmentation of the skin occurs in spring in the extreme north. Gaedeken compares the influence of the chemical rays on the organism to the influence of alcohol; both alike specially affect the skin. Alcohol and violet rays are thus two allied and powerful agents tending to destroy the nervous stability of ill-balanced organisms. This theory of the influence of season will doubtless receive further study. It fails to account for the autumn perturbation (specially marked in sexual phenomena), and Gaedeken eludes this difficulty by denying that any such autumn perturbation exists.

HAVELOCK ELLIS.

Alcohol as an Aetiological Factor in Mental Disease. (*Amer. Journ. of Insanity*, April, 1908.) Cotton, H. A.

In this communication, the author endeavours to prove that alcoholic excesses, and even moderate indulgences, are a large factor in producing the increasing ratio of insanity of the present day. For convenience in considering this question, he divides the ætiological effects of alcohol into direct, indirect or accessory, and inherited effects. Under the head of direct he considers only the rôle of alcohol in causing distinctive psychoses attributable to the abuse of this agent alone, and quotes at length Kraepelin's statistics of the Psychiatric Clinic at Munich for the year ending 1905, to the effect that 30 *per cent.* of the male patients and 6 *per cent.* of the female admitted during that year owed their alienation directly to alcohol.

The increase in his own cases at Danvers Insane Hospital for 1906 over 1903 was 6 *per cent.*, and over the average for a period of five years before that the increase was 12.6 *per cent.* for the male.

Under the indirect effects, he considers the influence of alcohol as an accessory cause in the production and modification of other psychoses, and under this heading he again quotes largely from Kraepelin, who found that 44.9 *per cent.* of his cases came under this category. The latter

points out how injurious is alcohol in epilepsy and other forms of insanity, and is convinced that one third of the cases of general paralysis could be avoided if people with syphilis would altogether abstain from it.

Cotton next discusses the inherited effects of alcohol, and agrees with Kraepelin, Forel and Bevan Lewis that it does not consist of a predisposition or taste for drink being inherited by the children, but that alcoholism in the parents, especially at the time of conception, affects the germ-plasm and thus injures by its toxic effects.

Although alcoholism is increasing in America, he speaks with just pride of the fact that, even if they depart from this teaching later, the use of alcohol is discouraged among the youth of that country, whilst in Germany, for instance, among the uneducated classes beer is believed to be as necessary as food and is given to children from their tenderest years.

A. W. WILCOX.

The Abnormalities of the Ascendance versus the Descendance [*Die Abnormitäten der Aszendenz in Beziehung zu Descendenz*]. (*Allg. Zeits. für Psychiat.*, Bd. 64, H. 6.) Tigges.

Continuing his laborious researches upon the heredity of mental disorders, Dr. Tigges has given forty-three pages to the results of his inquiry into the abnormalities of the ascendants, following back the ancestors and collateral relations of lunatics in the past. In insanity, he finds that in direct descent the mother's influence is greater than the father's by about from 1·3 to 2·0; by indirect ascent the mother's influence predominates from 0·5 to 0·8 *per cent*. In nervous diseases, the influence of the mother also appears to be greater, both by direct and indirect heredity. But in hereditary craving for drink, the influence of the father greatly surpasses that of the mother in direct ascent. In the transmission of eccentricity of character, the paternal influence is also found to be more powerful.

WILLIAM W. IRELAND.

4. Clinical Neurology and Psychiatry.

Juvenile Tabes Dorsalis of Tuberculous Origin [*Tabes Dorsale Giovanile d'Origine Tuberculare*]. (*Ann. di Freniat.*, vol. xvii, fasc. i, March, 1908.) Bonelli.

The patient whose case is reported in this paper was a girl, æt. 27, unmarried, with nothing of note in family history. At the age of twenty-four she began to suffer from lightning pains and ataxia, with subsequent development of perforating ulcer of the foot and sphincter troubles. When she came under treatment the knee-jerk was absent, pupillary reaction was of the Argyll-Robertson type, and there was analgesia over a good part of the lower extremities. With the exception of slight horizontal nystagmus, which could probably be attributed to the influence of corneal opacities dating from childhood, there were no symptoms suggestive of Friedreich's disease, while the absence of palpable enlargement of the superficial nerve-trunks and of muscular atrophy excluded the hypothesis of hypertrophic interstitial neuritis. On this positive and

negative evidence the author feels justified in making a definite diagnosis of tabes. Apart from the age of the patient, the case is of interest from the point of view of ætiology. There was no evidence of syphilis, hereditary or acquired, and an examination of the cerebro-spinal fluid for syphilitic anti-bodies gave a negative result. On the other hand the patient had distinct and long-standing indications of tuberculous infection—slowly-progressing pulmonary lesions, tuberculous ulcers on neck, and general glandular enlargement. In the absence of other causal conditions, the author is disposed to attribute the spinal degeneration to the influence of the toxins of the *Bacillus tuberculosis*.

W. C. SULLIVAN.

Demonstration of Five Cases of Juvenile General Paralysis [Juvenile Paralyse]. (*Allg. Zeits. für Psychiat., Bd. 65, H. 3.*) *Kleineberger.*

Dr. Kleineberger described to the East German Association of Alienists at Breslau five cases of juvenile paralysis, three boys and two girls, whose ages ran from sixteen to twenty-one. There were arrest of development, sluggish action of the pupils, in some cases optic atrophy. The mental symptoms showed a steady progress towards simple dementia, feelings of optimism, with childish ideas of grandeur, and increased irritability. There was characteristic stuttering, and the reflexes were heightened. In all these patients, there was an increase of the lymphocytes in the cerebro-spinal fluid. The serum test showed the presence of lactic anti-bodies. The progress of the malady was slow, lasting between four and six years. Evidence of tabes was found in one case in the father, and in another in the mother; and two of the male parents had died of general paralysis.

WILLIAM W. IRELAND.

Tabetic Psychosis [Psychose Tabétique]. (*Bull. de la Soc. de Méd. Ment. de Belgique, June, 1908.*) *Masoin, P., and d'Hollander, F.*

The subject of this article was a man, æt. 36. During his youth he had acquired syphilis, and throughout his life was addicted to alcohol.

Tabes first showed itself by an impairment of vision, and at the same time difficulty in locomotion. Mental symptoms became evident a year later, at which time he had delusions of persecution. His memory was accurate alike for recent and remote events. He next suffered from gastric crises, and this was the signal for the character of his delusions to entirely alter. He became hypochondriacal, and depression also entered into his mental state. He thought his food was given to him only to prolong his misery, that his bowels were inactive, etc. He was spoon-fed for the last five years of his life, which says much for the attention he received at the hands of his attendants. Three weeks before the death of the patient a searching examination failed to reveal the slightest signs of dementia. The *post-mortem* showed changes in every way characteristic of general paralysis.

The authors regard the disease as one of general paralysis, and the *post-mortem* confirmed the diagnosis. The symptoms and course of the disease correspond exactly with a disease described by Professor Pierret and Roupie under the term "psychose tabétique."

General paralysis without dementia is certainly rare, but it is well known that those cases manifesting physical signs and not mental symptoms at the onset of the disease are often of long duration; this case was prolonged through seven years. The factor which decides whether a syphilitic subject shall become a general paralytic, a tabetic, or a case of gross cerebral lesion is obscure, and one here enters upon a field of conjecture which is not remunerative. The authors consider that this case would ultimately have become demented, and suggest that the usual questions to ascertain this condition are not always sufficient. That this is a form of psychosis which has not yet been grasped by the profession at large is a fact, and other cases of a similar nature will be eagerly looked for. The absence of dementia appears all the more remarkable in that the patient was a chronic drunken syphilitic.

COLIN M'DOWALL.

Agressions and Repeated Homicidal Impulses in Two Cases of General Paralysis [*Agressions et violences répétées chez deux Déments Paralytiques*]. (*Rev. de Psychiat.*, Sept., 1908.) Juquelier, P., and Naudascher, G.

One usually associates the typical general paralytic as a person who is at peace with the world in general. Frequently generous out of all reason for any trivial service rendered, this class of lunatic is notorious for promises, sometimes fulfilled, of liberality. It is therefore interesting to note two cases in which the very opposite is found.

In the first case the patient's acts were always brutal; he was violent from the day of admission till he died. He threw anything he could reach at his attendants, even though parietic and very feeble. His acts seem to have been the result of a megalomania; he could not admit any superior or any authority. He was wiser than his associates and he tried to rid himself of those whom he thought stood in his way.

The second case closely resembles the first, and demonstrates more markedly the predominant desire to remove any one in authority. Though demented in so far as the term is usually understood, he was cunning in inventing plans so that he could be left with only one person. He made an attempt to strangle an attendant, and was prevented just in time. He, moreover, denied the assault when afterwards questioned. Possibly the lack of knowledge was real in this instance, but he at the same time accused the attendant of assaulting him.

In both examples physical signs were quite definite and typical of the disease under consideration, and both were the subjects of syphilis.

COLIN M'DOWALL.

Epilepsy in Dementia Præcox [*De l'épilepsie chez les Déments Précoces*]. (*Rev. de Psychiat.*, June, 1908.) Marchand, L.

This is an article accompanied by clinical accounts on cases of dementia præcox in which epilepsy formed a part. Epilepsy—that is, the occurrence of seizures of the usual type—occurs in many of the psychoses with or without gross brain lesion. Epilepsy should be considered a symptom and not a disease.

Epilepsy in the course of a case of dementia præcox is uncommon. A fit may, however, be the very onset of cerebral trouble, followed by the mental symptoms of dementia præcox; more frequently the seizures do not commence till the disease has been in progress a considerable time.

Pathological research shows that the mental symptoms on the one hand and the seizures on the other ought to be considered symptomatic of gross cerebral lesions, which are, for the most part, sclerotic changes.

COLIN MACDOWALL.

The Problem of Hysteria [Le Problème de l'Hystérie]. (Gaz. des Hôp., Aug. 8th, 1908.) Alquier, M. L.

This paper consists of a general review of the more recent researches in regard to the symptomatology and nature of hysteria, with a view to ascertaining how far they have been successful in defining the limits of the neurosis.

The author first investigates the question as to what morbid manifestations are characteristic of hysteria. In studying this question two perpetual sources of error arise, viz., (1) the influence of suggestion which may be unconsciously exercised by the observer himself, by the environment, and lastly by auto-suggestion, (2) simulation. The first source of error may be resumed in a word, the "cultivation" of hysterics. If this is guarded against Babinski and others consider that such symptoms as dyschromatopsia and narrowing of visual field are not discoverable, and that they cannot therefore be considered characteristic of the malady. Whether paralysis and contractures are to be regarded as purely the result of suggestion is doubtful, especially as the latter persist in some cases during sleep. The reflexes are too variable to be considered characteristic.

The study of the visceral, vaso-motor and trophic disorders is rendered especially difficult, partly from the possibility of simulation and also because they may be due to concomitant disorders of non-hysterical nature. This group of symptoms still requires further investigation, though Babinski, taking the point of view that only those symptoms are to be regarded as hysterical which can be reproduced by suggestion, would not include them as manifestations of hysteria.

The nature and cause of the neurosis is next discussed. Various methods and points of view have been adopted for the elucidation of this problem. Some observers seek to explain the phenomena physiologically or dynamically, others psychologically, and others consider that neither a study of the dynamic mechanism or mental state suffices as an explanation, but that special attention should be paid to the particular "soil" on which the neurosis develops, i.e., to attempt to elucidate why analogous causes produce hysteria in some subjects and not in others. The author critically discusses the various theories, and concludes that an abnormal diathesis or constitutional state must be admitted in hysteria as in other neuroses, side by side with certain depressing causes, of which psychic traumatism of a sexual nature is the most important. Why sometimes the same exciting cause should

produce hysteria and sometimes other psycho-neuroses is a question of individual predisposition which is at present not elucidated.

H. DEVINE.

5. Asylum Reports.

Indian Asylum Reports for 1907.

Agra and Oudh.—The nineteen deaths from influenza, out of the sixty-two admitted to hospital, occurred in the last six weeks of the year, and extremely rapid signs of pneumonia set in after a few hours' malaise associated with slight cough and fever. It was treated throughout as acutely infectious, and was confined to one section of the asylum in which the first cases appeared. In many cases when the patient survived the third-day symptoms of enteritis supervened. The influenza death-rate was 30 *per cent.*, but it must be remembered that the patients were suffering from insanity, which reduces the power of resistance to other diseases to the lowest.

The flushing system of conservancy in the Benares Asylum was stopped in June, 1907, and the dry earth system re-introduced. During the flushing system period the health of the asylum remained as bad as it has been since the system was introduced, and twenty-one deaths occurred during the first six months of the year. With the introduction of the dry-earth system the health of the asylum has gone back to its former excellent standard, and though fourteen deaths occurred during the second half of the year some of these contracted their ailments during the first six months, while no fewer than six were from causes which were non-preventable.

Bengal (1906).—Another important and desirable change which took place in the administration of asylums of this province was the appointment of a separate medical officer as superintendent of the Berhampore combined asylum, *viz.*, Major C. J. Robertson-Milne, I.M.S., who has had experience of asylum management elsewhere. He took charge of the institution on October 29th, 1906, relieving the civil surgeon of the asylum work. On his arrival in Bengal he was at first employed in special duty in inspecting the existing asylums, the site and the designs already drawn up of the proposed Native Central Asylum at Ranchi, with a view to the final preparation and adoption of suitable plans for the new buildings at that place. He submitted a valuable note containing his remarks and suggestions, which were considered at a conference of officials of the Imperial and Local Governments held by His Honour the Lieutenant-Governor at Belvedere, with the result that fresh plans have been prepared and will soon be submitted for the sanction of the Secretary of State.

Eastern Bengal and Assam.—The Lunatic Asylum at Dacca was in charge of Lieutenant-Colonel R. N. Campbell, I.M.S., from January 1st to June 15th; Major E. R. Parry, I.M.S., from June 16th to June 18th; Major A. R. S. Anderson, I.M.S., from June 19th to October 5th; Lieutenant-Colonel R. N. Campbell, I.M.S., from October 6th to November 7th; Major A. R. S. Anderson, I.M.S., from November 8th to the end of the year.

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Bombay.—Though the accommodation in the Dhárwár Asylum is in many respects admirable, the most serious defects which have been noticed are (1) that there is no separate accommodation for the criminal insane, and (2) that the female asylum (which is really only part of the male one cut off by a dividing wall) is unsuitable for its present purpose. As it is very desirable that the criminal insane should not associate with the non-criminal ones, a proposal is being made that they should be segregated in the present female asylum, which is in every way suitable for them, and that separate accommodation be provided for the female lunatics to the north of the asylum kitchen, an arrangement which, in addition to removing them from close proximity to the males, would also allow of the former being taken out for exercise in the asylum compound more frequently than is at present possible.

Burma.—Two attempts at suicide occurred in Rangoon, both of which were thoroughly investigated. Immediately after the first attempt at suicide Captain Shaw, I.M.S., the Superintendent, introduced the "card system" of surveillance, which has been found to work satisfactorily and has been introduced into the Minbu Asylum.

The tell-tale clock system in Rangoon is to be further extended, as the experience gained shows its efficacy. Its introduction in the female section in Rangoon caused a strike among the female attendants. Those refusing to carry it out were promptly dismissed. The Superintendent notes that there has been no further trouble.

Central Provinces.—The Superintendent of the Nagpur Asylum doubts the reliability of the causes of insanity assigned in new admissions, which, he says, are usually filled in by the police or the magistrate, and have to be supplemented, when possible, by inquiries from relatives or friends later. In approximately 81 *per cent.* of his admissions causes were assigned: 28 *per cent.* of these were debited to the use of ganja, and 10 *per cent.* to the use of alcohol. In 16 *per cent.* the disease was said to have been inherited. At Jubbulpore eleven of the sixteen admissions were ascribed to physical causes, six to ganja and charas, two to malaria, two to heredity, and one to privation, and five were due to moral causes (overstudy, overstudy with insomnia, loss of occupation and consequent mental anxiety, family trouble and religious impressions).

Punjab.—The question of improving the pay of the subordinate staff has been under consideration for some time. Hitherto the rate of pay has been undoubtedly low in view of the distasteful nature of the duties performed, and the necessity for securing as attendants men of good character, capable of taking an intelligent interest in their work. The Local Government has now sanctioned a considerable increase in the permanent establishment, with increased rates of pay; and it is hoped that the difficulty hitherto felt by the Superintendent in securing suitable men as attendants will disappear.

Owing to want of space a large quantity of Epitome has been held over until the July number.—EDITORS.

Part IV.—Notes and News.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

A QUARTERLY MEETING of the Association was held on Tuesday, 23rd February, 1909, by the courtesy of the University Authorities, in the large theatre of the new Medical Schools, Cambridge, under the presidency of Dr. Charles Mercier.

Present (the following twenty-nine members):—Sir T. Clifford Allbutt, Drs. A. J. Alliot, C. H. Bond, D. Bower, J. Carswell, S. H. Clarke, J. F. Dixon, T. Drapes, J. A. Ewan, C. K. Hitchcock, R. D. Hotchkis, Robert Jones, P. W. MacDonald, T. W. McDowall, Chas. Mercier, J. Middlemass, H. H. Newington, Bedford Pierce, D. Rice, W. H. R. Rivers, G. H. Savage, G. E. Shuttleworth, J. G. Smith, R. Percy Smith, D. G. Thomson, T. S. Tuke, F. D. Turner, E. B. Whitcombe, H. Wolseley-Lewis, and T. Outterson Wood. Visitors: Mr. C. W. Bower, Drs. L. Humphry, C. S. Myers, Mr. Smedley Taylor, and Mr. J. F. C. Turner.

MINUTES OF LAST MEETING.

The minutes of the last meeting, having appeared in the JOURNAL, they were duly confirmed and signed.

ELECTION OF NEW MEMBERS.

The following were unanimously elected as ordinary members:

John Theodore Anderson, L.R.C.P. & S.Edin., L.F.P.S.Glasg., Senior Assistant Medical Officer, Hospital for the Insane, Perth, Australia. Proposed by Geo. M. Robertson, Winifred Muirhead, and C. H. G. Gostwyck.

Robert Geo. Archibald Bagnall, M.B., Ch.B.Edin., Assistant Medical Officer, Wye House, Buxton. Proposed by Graeme Dickson, Richard Legge, and S. Rutherford Macphail.

John Benson Cooke, L.R.C.S.&P.Edin. (H.M. Prison Service), Love Lane, Wakefield. Proposed by P. W. MacDonald, H. Hayes Newington, and C. Hubert Bond.

Crawford S. Crichton, M.B., Ch.B.Edin., Assistant Medical Officer, London County Asylum, Bexley. Proposed by M. A. Collins, E. Faulks, and C. Hubert Bond.

Ernest Alfred Ellis, M.A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P., Assistant Medical Officer, Broadmoor State Asylum, Crowthorne, Berks. Proposed by R. Brayn, John Baker, and C. Hubert Bond.

George Evans, M.B.Lond., Assistant Medical Officer, London County Asylum, Bexley. Proposed by M. A. Collins, E. Faulks, and R. H. Steen.

Alexander Grant Russell Foulerton, F.R.C.S.Eng., L.R.C.P.Lond., D.P.H. Cantab., Middlesex Hospital, W., and Haywards Heath (County Medical Officer of Health for E. Sussex). Proposed by H. Hayes Newington, G. F. Barham, and C. Hubert Bond.

James Nicoll, M.D., C.M.Edin., D.P.H.Lond. (Senior Assistant Medical Officer, Caterham Asylum), The Pines, Upper Caterham, Surrey. Proposed by P. E. Campbell, G. E. Shuttleworth, and C. Hubert Bond.

Frederick Ernest Stokes, M.B., Ch.B.Glasg., D.P.H.Cantab., Assistant Medical Officer, Borough Asylum, Portsmouth. Proposed by R. H. Mumby, H. Hayes Newington, and C. Hubert Bond.

Robert Cyril Turnbull, M.D.Lond., M.R.C.S., L.R.C.P., Assistant Medical Officer, Horton Asylum, Epsom. Proposed by Sam. C. Elgee, John R. Lord, and David Ogilvy.

CONGRATULATIONS TO THE PRESIDENT.

Dr. G. H. SAVAGE said, that although there was no mention of it on the agenda, he desired leave to allude to a matter in which all members would feel considerable interest. It was to congratulate the President of the Association on the high honour conferred on him by the College of Physicians which had adjudged him worthy of the highest literary honour it could bestow, namely the Swiney Prize. He was so sure of the concurrence of those present that he would at once convey to the President their appreciation of the fact.

The PRESIDENT, in acknowledging the kindly recognition, said that next to receiving the prize, the greatest pleasure was to receive the congratulations of one's friends.

PENSIONS FOR ASYLUM EMPLOYÉS.

Dr. HUBERT BOND said the President had asked him to mention that a Bill with reference to pensions for Asylum employées—officers and others—had been promoted by the Asylum Workers' Association. The matter had come up that morning, both before the Parliamentary Committee and the Council, and, meanwhile it had been referred back to the Parliamentary Committee. It was hoped that a draft of the Bill would appear in the next number of the *Journal of Mental Science*, so that every member might have the opportunity of knowing its terms.

The PRESIDENT said the Association was favoured that afternoon by the presence of a member of the Royal Commission on the Care and Control of the Feeble-Minded. All present would remember with what hopeful anticipations they received the notice of the appointment of that Commission, and they knew also what an enormous amount of work it did, and how exceedingly voluminous was the Report which it had issued. The Association had, on several occasions, proposed to discuss that Report, but there had not been a meeting sufficiently long to allow of that possibility. However, there was one point in the recommendations of the Report—and if it was to be discussed in that Association it must be discussed piecemeal—and that was the one which Dr. Donkin had kindly consented to be present to explain, as to what it was the Commission recommended, and to take their criticisms upon it.

Dr. H. B. DONKIN then gave a detailed account of "The Certification of Mental Defectives as proposed in the Report of the Royal Commission on the Care and Control of the Feeble-minded."

The paper appears on page 282 of the JOURNAL, together with a copy of Recommendation LXXI of the Commissioners.

A good discussion was elicited, in which Drs. Savage, Shuttleworth, Carswell, Bower, Wolseley-Lewis, Turner, and the President took part.

Dr. DONKIN subsequently replied.

The PRESIDENT announced, with regret, that Dr. Graham had been prevented from attending to read his paper on "The Modern Movement in Psycho-therapy." But members' regrets would be mitigated by the fact that Dr. Rivers had been kind enough to offer to show any members over his laboratory, and display his various apparatus for conducting psychological experiments.

THANKS TO THE SENATE.

Dr. SAVAGE proposed a cordial vote of thanks to the Senate of Cambridge University and the Staff for the use of the excellent theatre in which the meeting had been held.

This was carried by acclamation, and the President undertook to forward the resolution to the proper quarter.

DEMONSTRATION BY DR. RIVERS AND DR. MYERS.

Dr. RIVERS and his colleague Dr. MYERS showed some of the members a number of pieces of apparatus, including Kraepelin's modification of Mosso's ergograph, a machine used in tests of memory, Stern's *Ton-variators*, Appunn's *Tonmesser*, Runné's chronoscope and a pendulum tachistoscope.

In the evening about thirty members and their guests, among whom were Sir Clifford Allbutt, K.C.B., Dr. Donkin, Professor Sims Woodhead, Mr. Smedley Taylor, and others, attended the dinner at the University Arms Hotel.

At the Council meeting, which had been held at noon, the following were present:—The President, and Drs. Bond, Ewan, Hotchkis, Hayes Newington, Robert Jones, P. W. MacDonald, T. W. McDowall, Outtersen Wood, Stoddart, and Wolseley-Lewis.

ASYLUMS OFFICERS' SUPERANNUATION BILL.

MEMORANDUM.

The Lunacy Act, 1890, gives discretionary power to the visiting committee of each county and borough asylum in England and Wales to grant to any officer or servant in their employ "who is incapacitated by confirmed illness, age, or infirmity, or who has been an officer or servant in the asylum for not less than 15 years, and is not less than 50 years old, such superannuation allowance as the committee think fit" (section 280). The superannuation allowance must not exceed two-thirds of salary and value of emoluments. It is further provided that service in several asylums of the same local authority shall be aggregated in computing pension (section 282). This Act extends only to asylums in England and Wales. No contribution towards pension is required from officers or servants.

In Scotland no statutory provision exists for granting superannuation allowances to officers or servants of district asylums.

In Ireland provision is made by 53 & 54 Vict. c. 31, and 61 & 62 Vict. c. 37, sections 84, 109, and 118, and schedule VI., part V for discretionary powers to committees of management, "if they think fit to do so but not otherwise" to grant superannuation allowances to their officers and servants not less than 50 years of age after 15 years' service.

The object of this Bill is to substitute for discretionary power on the part of managers or authorities of asylums to grant pensions, the obligation to grant superannuation allowances to their officers and servants on fixed scales (differing, however, in relation to the nature of the employment involving more or less intimate association with the insane) after definite periods of approved service, and to provide for contributions from the officers and servants in aid thereof, as is the practice in the poor law service, the police and some other branches of the public service.

ARRANGEMENT OF CLAUSES.

SUPERANNUATION.

Clause 1. Division of officers and servants into classes. 2. Title of officers, servants, etc., to superannuation allowances and scale thereof. 3. Forfeiture for fraud, etc. 4. Reckoning service. 5. Case of subsequent appointment. 6. Case of injury or illness. 7. Return of contributions and power to grant gratuities, etc., in certain cases.

CONTRIBUTION.

Clause 8. Obligation of officers and servants to contribute. 9. Scale of contributions.

MISCELLANEOUS.

Clause 10. Provision for retiring officers and servants in certain cases. 11. Power to grant gratuities to dependants in case of death of officer or servant. 12. Appeal to Commissioners in Lunacy in certain cases of dispute. 13. Definitions. 14. Repeals. 15. Extent of Act. 16. Short title and commencement of Act. Schedule.

A
BILL
TO

A.D. 1909.
— Provide for Superannuation Allowances to Officers and Servants employed in Public Asylums for the Insane in Great Britain and Ireland; and to make other relative provisions.

BE it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

SUPERANNUATION.

1. For the purposes of this Act and subject to the provisions thereof the officers and servants employed by the managers or authorities of every asylum shall be divided into two classes. The first class shall consist of all those officers and servants who have the care or charge of the patients in the usual course of their employment or who in the course of their usual employment may be brought into frequent contact with the patients or hold responsible positions in connection with the administration of the asylum. The second class shall consist of all those officers and servants (other than workmen paid trades union wages) the course of whose usual employment does not bring them into frequent contact with or give them the charge or care of the patients or any of them. Any dispute arising under this section to be decided as provided by section twelve of this Act.

Division of officers and servants into classes.

Title of officers, servants, etc., to superannuation allowances and scale thereof.

2.—(1) Any officer or servant of the first class who has been in the service of an asylum or asylums for not less than fifteen years, and is not less than fifty years old, or who is permanently incapacitated for asylum duties after ten years' service by injury or illness, mental or otherwise, shall be entitled on resigning or otherwise ceasing to hold office or employment to receive during life out of funds applicable to the maintenance of the asylum or asylums a superannuation allowance, the annual amount of which shall be computed at the rate of *one fiftieth* of his annual salary or wages and emoluments at the time of retirement for each year of service.

(2) Any officer or servant of the second class who has been in the service of an asylum or asylums for not less than twenty years and is not less than sixty years old, or who is permanently incapacitated from asylum duties after ten years' service by injury or illness shall be entitled on resigning or otherwise ceasing to hold office or employment to receive during life out of funds applicable to the maintenance of the asylum or asylums a superannuation allowance the annual amount of which shall be computed at the rate of *one sixtieth* of his annual salary or wages and emoluments at the time of retirement for each year of service.

The managers or authorities of any asylum may, in computing the amount of superannuation allowance to any officer or servant, take into account any peculiar professional qualifications or services or special circumstances entitling to consideration and add a number of years not exceeding ten to the number of years which the officer or servant has actually served in the aggregate:

Provided in all cases to which this section refers that a superannuation allowance shall not in any case exceed *two thirds* of the salary or wages, with value of emoluments, if any, payable to the superannuated person at the date of his superannuation.

Forfeiture for fraud, etc.

3. An officer or servant who is dismissed or otherwise ceases to hold office in consequence of any offence of a fraudulent character or of grave misconduct shall forfeit all claim to any superannuation allowance under this Act in respect of his previous service, provided that in the case of any such officer or servant the asylum managers or authority may, if they see fit, return a sum equal to the amount of all or part of his aggregate contributions under this Act.

Reckoning service.

4. All services by an officer or servant in an asylum shall be aggregated and reckoned for the purposes of this Act, whether the services have been continuous or not, and whether his whole time has been devoted to the services or not, and whether they have been rendered at one or more asylums to which this Act applies.

Case of subsequent appointment.

5. When a person in receipt of superannuation allowance or pension under this Act is appointed to any office or employment by any authority to which this Act applies, such allowance shall cease to be paid so long as he continues to hold such

office or employment if the salary or wages and emoluments thereof are equal to or in excess of such allowance, if they are not, then only so much of such allowance shall be paid so long as he holds such employment as will make up the deficiency. Any such person on ceasing to hold such office or employment shall be entitled to revert to and receive the full amount of his original superannuation allowance from the authority which granted it.

6. In the event of any officer or servant of an asylum being incapacitated for further service by accident, injury, or confirmed illness (bodily or mental) clearly attributable to the duties of his employment, the managers or authority of the asylum may grant such superannuation allowance as under the circumstances may appear fitting independently of length of service.

Case of injury or illness.

7. An officer or servant who has not become entitled to a superannuation allowance, and who loses his office or employment by reason of reduction of staff, or of any alteration due to the action of the asylum authority, and not owing to his own default, shall be entitled to receive on retirement the aggregate amount of his contributions to the fund or funds from which the superannuation allowances are to be paid, together with interest incident thereon at *two and a half per cent.* per annum. In other events the contributions will not be returned, except in the case of female officers or nurses leaving to be married after at least five years' satisfactory service, on the production of the marriage certificate.

Return of contributions and power to grant gratuities, etc., in certain cases.

CONTRIBUTION.

8. Subject to the provisions of this Act, every officer and servant in the service or employment of the managers or authorities of an asylum in the United Kingdom shall contribute annually, for the purpose of this Act, a percentage amount of his salary or wages and emoluments, according to the scale laid down in this Act, such amount to be from time to time deducted from the salary or wages payable to him and to be carried to and to form part of the fund from which the superannuation allowances are to be paid.

Obligation of officers and servants to contribute.

9. The percentage amounts to be deducted annually for the purposes of this Act shall be as follows (that is to say):—

Scale of contributions.

In the case of officers and servants with less than five years' service at the passing of this Act, or appointed after the passing of this Act, *two per cent.* of his salary or wages and emoluments for each year;

In the case of officers and servants with more than five and less than fifteen years' service at the passing of this Act, *two and a half per cent.* of the salary or wages and emoluments for each year;

In the case of officers and servants with more than fifteen years' service at the passing of this Act, *three per cent.* of the salary or wages and emoluments for each year.

MISCELLANEOUS.

10. When an officer or servant in class one has attained the age of fifty-five years, an officer or servant in class two has attained the age of sixty, and the asylum managers or authority are of opinion that his retirement would be expedient in the interests of the service, it shall be competent for them to require him to retire upon payment to him of the superannuation allowance to which he may be entitled under this Act.

Provision for retiring officers and servants in certain cases.

11. It shall be competent for the asylum managers or authority to vote at their discretion a gratuity to the widow or orphans, or any near dependant relative of an officer or servant dying while in the service of the asylum at an age at which he would otherwise have been entitled to a superannuation allowance, such gratuity to be chargeable against the funds out of which the asylum is maintained.

Power to grant gratuities to dependants in case of death of officer or servant.

12. In any case of dismissal of an officer or servant of more than ten years' service, such officer or servant shall have a right of appeal to the Commissioners in Lunacy or other corresponding central authority, and in the case of any dispute arising as to the administration of this Act, such dispute shall be referred to the said Commissioners or authority, and their decision thereupon shall be final.

Appeal to Commissioners in Lunacy in certain cases of dispute.

13. In this Act, if not inconsistent with the context, "asylum" means (1) an asylum for lunatics provided by a county or borough, or by a union of counties or boroughs; (2) a Metropolitan Asylums Board asylum for imbeciles; and (3) a district asylum in Scotland and Ireland. "Officers or servant" includes any

Definitions.

superintendent, medical officer, chaplain, clerk, steward, matron, and any other officer, servant, or employée of the asylum.

Repeals.

14. The enactments specified in the schedule to this Act are hereby repealed, subject to this qualification, that this repeal shall not affect the payment of any superannuation allowance granted before the commencement of this Act, nor any other right or liability acquired or accrued in respect of schemes or expectations of such allowances definitely entered into (between the parties), nor anything duly done or suffered before the commencement of this Act.

Extent of Act.

15. This Act extends to Great Britain and Ireland.

Short title and commencement of Act.

16. This Act may be cited as the Asylums Officers' Superannuation Act, 1909, and shall come into operation from and immediately after the *thirty-first day of March nineteen hundred and ten*.

SCHEDULE.

Session and Chapter.	Title or Short Title.	Extent of Repeal.
19 & 20 Vict. c. 99.	The Lunatic Asylums Superannuations (Ireland) Act, 1856.	The whole Act so far as unrepealed.
30 & 31 Vict. c. 118.	The Lunacy (Ireland) Act, 1867 -	Section eight.
53 Vict. c. 5.	Lunacy Act - - -	Sections two hundred and eighty, two hundred and eighty-one, and two hundred and eighty-two.
53 & 54 Vict. c. 31.	The Paupers' Lunatic Asylums (Ireland) Superannuation Act, 1890.	Section three.

The following AMENDMENTS have been suggested by the Parliamentary Committee of the Medico-Psychological Association:

Sect. 2 (1) and (2).—That the words "out of funds" should read "out of the County, Borough, or other funds."

Sect. 2 (2).—*The Managers or Authorities of any Asylum*. This phrase will probably require an interpretation clause to meet the respective phraseology of England and Wales, Scotland, and Ireland.

Sect. 4.—That the practicability be considered of either—(a) the pooling of contributions in a common fund, or (b) the transferring of previous contributions from one authority to another in the case of the latter appointing an employée of the former.

Sect. 4.—The words "not in any case exceeding two thirds of the salary or wages, with value of emoluments, if any," to be added.

Sect. 7.—"In other events the contributions will not be returned except in the case of *female* officers or nurses leaving *to be married* after at least five years' satisfactory service, *on the production of the marriage certificate*."

That the words in *italics* should be deleted.

Sect. 11.—That the words "at an age at which he would otherwise have been entitled to a superannuation allowance" be deleted.

Sect. 12.—That the words "Commissioners in Lunacy or other corresponding central authority" should be deleted and be replaced by "County Council in England and Wales," with additional words to specify the corresponding authorities in respect to Scotland and Ireland—and further on,

That the words "otherwise than for offences specified in Sect. 3" be inserted after the words "of more than ten years' service."

That the words "to the said Commissioners or authority" should read "to the said County Council or corresponding authority."

Section 13.—That this is the correct place to insert a definition of "Managers or Authorities of any Asylum."

That at the end of the section, the words "employé of the asylum" should read "employé of the asylum authority."

Sect. 14.—That immediately following the word "granted," the words "nor the validity of any scale of superannuation more favourable than the schemes laid down in this Act actually in force" be inserted.

That the following clause should appear at the end of this section. "Provided that it should be competent for any officer or servant who has served for more than fifteen years in one asylum previously to the commencement of this Act by giving notice within three months thereof to the Managing Authority to be excluded from the requirements and provisions of this Act as regards superannuation allowance but not to forfeit the benefit of the arrangements in that respect existing under Sects. 280—282 of the Lunacy Act, 1890.

OBITUARY.

DAVID BRODIE, M.D.

On the 21st December last there passed away at his house, Slingsby Villa, Finchley, a former member of our Association, and a man who did faithful and good work in his day. David Brodie, the son of William Brodie, Schoolmaster at Alloa, was born on the 18th April, 1821. He took the degree of M.D. in 1845. While he was studying medicine at Edinburgh, Séguin and Saegert had begun to prosecute the teaching of idiots, and Brodie was of a character likely to be attracted by philanthropic ideals. Some sympathetic friends joined together to take a house at Gayfield Square, in Edinburgh, in 1855, which was conducted by Dr. and Mrs. Brodie. His reputation soon spread, and in 1860 he was called to America to be consulted about a case, although there were already three institutions for the training of idiots in the United States. In the same year a Committee was formed in Edinburgh for the education of Imbecile Youth. This led to the foundation of the Scottish National Institution at Larbert. Dr. Brodie was invited to become Medical Superintendent, and in 1864 the house was opened with twenty-two pupils.

Although the list of directors comprised a number of men known for their position, ability, and philanthropic character, the institution laboured under difficulties from the outset, of which the want of funds was not the least. The system of electing the beneficiaries by the votes of the contributors led to a desire of making economies for them from the paying boarders, and the actual management of the institution fell into the hands of a few directors, who were unwilling to believe that a large subscription does not bring with it the knowledge of intelligently exercising the power of regulating a training school. After much friction and vexation, deepened by the loss of his first wife, Dr. Brodie, in 1866, resigned his position, and taking with him all the best paying boarders, began a private establishment at Columbia Lodge, Liberton, which he successfully conducted for eighteen years, at the end of which period he retired upon what he had saved.

During the latter years of his life he resided in the suburbs of London, where he died in his eighty-eighth year.

Dr. Brodie was the author of a book entitled *The Healing Art the Right Hand of the Church by Therapeutes*, Edinburgh, 1859, besides various articles in the medical journals. He was a man of tender and kindly nature, hopeful and enthusiastic, grudging no labour, and willing to give up his whole time, and descend to the most minute details for the care and comfort of those under his charge. He was deeply religious, and, when in Scotland, he belonged to the Plymouth Brethren. He was a radical in politics, but mild and tolerant in his views.

He leaves behind him a widow, but has survived all his other relations.

WILLIAM W. IRELAND.

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DR. AUGUSTE MOTET.

We regret to have to record the death of Dr. Motet, he having been an Honorary Member of the Association since 1880. Dr. Motet's distinguished career has been widely recognised in this country. He was a member of the Academy of Medicine, and was twice elected President of the Medico-Psychological Society of Paris. Dr. Motet was one of the leading physicians consulted in medico-legal cases. He had the misfortune to lose his daughter some years ago, a bereavement which gravely affected him, and his death was not unexpected, for he has been seriously ill for the last fifteen months. In consequence he had resigned the active duties of his profession. Dr. Motet attained the age of seventy-six years, and died on the 14th of March, 1909.

NOTICES BY THE REGISTRAR.

List of the successful candidates at the examination for the Nursing Certificate, held in November, 1908.

Pretoria Asylum, S. Africa.—Males: Robert Walters, John Ryan, Herbert Horace Clark. Females: Margaret Beck, Helena Retief.

Fort Beaufort Asylum, S. Africa.—Male: James Wilson.

Valkenberg Asylum, S. Africa.—Male: Arnold Lister. Female: Jane Ann Cow.

Grahamstown Asylum, S. Africa.—Male: William Manley.

Farnham House, Dublin.—Females: Margaret Cunningham, Harriet Miller.

Richmond Asylum, Dublin.—Male: Martin Bourke. Females: Mary Rourke, Kate Goodman.

Londonderry Asylum.—Female: Rebecca Teresa Canning.

Ayr District Asylum.—Females: Mary Ann Robertson, Dorothy Fairbairn, Janet Ross, Margaret Strachan Warrack.

Aberdeen Royal Asylum.—Female: Osberga Marshall.

Edinburgh Royal Asylum.—Females: Alice Harrison, Kate Toft, Minnie Key, Gertrude Browning.

Gartloch Asylum.—Females: Elizabeth Lockhart, Susan G. Furphy.

Woodilee Asylum.—Male: Andrew Strachan. Females: Jane Mitchell Napier, Bessie Russell, Jeanie Borland Vernal, Margaret Hamilton Anderson.

Stirling District Asylum.—Females: Agnes Annetta Ferguson, Mary Sinclair, Christina Addison.

Brecon and Radnor Asylum.—Female: Edith Maud Williams.

Rainhill Asylum.—Males: Henry Bean, George Henry Beebe, Harry Kitchen, Aaron Bradbury, John Howell. Females: Louisa Hicks, Eva Mary Hurrell, Sarah Emma Shotton, Mary Duguid.

Whittingham Asylum.—Males: William Miles, Robert Harrison, Walter Berry, Sam Akroyd, John Bishop, Joseph Kelly. Females: Emily Latham, Ellen Rothwell, Sarah Elizabeth Ingham, Nellie Houlton, Caroline Irving, Selina McChesney.

Bexley Asylum.—Females: Catherine Maud Willis, Florence Willerton, Miriam Eleanor Hubbard, Margaret E. Built.

Shropshire County Asylum.—Female: Amy Payne.

Cheddleton Asylum, Staffordshire.—Females: Rosa Eveline Appleyard, Ruth Emilia Maud Muffett.

Derby Borough Asylum.—Female: Katherine Lawton Wingate.

Leavesden Asylum.—Males: William Thompson, Horace Howlett. Females: Rose Amelia Levett, Margaret Cotter, Lily May Steele.

Nottingham City Asylum.—Male: John Powell.

Holloway Sanatorium.—Male: Mark Adam Edward Dalton. Females: Winifred Russell, Annie Martin, Kate Eliza Froude, Minnie Catherine Bell.

York Retreat.—Males: Ernest Muchall, Walter Vasey. Females: Amy Amelia Phebey, Florence Bayliss, Hilda Margaret Hale, Dora Kent, Louisa Mary Pallister, Sarah Louisa Maskill.

Warwick County Asylum.—Male: Ernest Bishop.

Robben Island Asylum, S. Africa.—Males: Harry Perkins, James Watt Michie, John Marshall Doman.

177 candidates presented themselves for examination in November last, of these 84 were successful.

The percentage of candidates rejected were as follows: Paper 49; *viva voce*, 22.

The following is a list of the questions:

1. How is the elbow-joint formed, and what movements does it allow?
2. What is Hernia? To what is it due? What is the special risk in it? How should patients suffering from it be dealt with?
3. Mention three different forms of "Insane Habit," and say how each should be treated.
4. What is meant by Adolescent Insanity? Mention its main features.
5. What vessels carry the blood to the heart? What causes the blood to flow along the veins? Explain how it is that exercise assists the circulation.
6. What can be done by the night-nurse to relieve sleeplessness?
7. An old woman slips on orange peel and falls heavily in the street. She complains of pain in the hip and thigh and makes fruitless efforts to rise. What is the probable injury? What should be done pending the arrival of a medical man?
8. A patient is depressed, resistive and rarely speaks. Mention the more important of the nurse's daily routine duties in such a case.
9. What means would you employ to give nourishment to a person who refuses food?
10. What points ought to be observed on the first admission of a patient to an asylum?

Essays for Bronze Medal must be sent to the Registrar prior to June 20th. The examinations for Certificate in Psychological Medicine and the Gaskell Prize will be held during the first week in July.

The next examination for Nursing Certificate will be held on Monday, May 3rd. All information concerning the above examinations can be obtained from the Registrar, Dr. A. Miller, Hatton Asylum, near Warwick.

NOTICES OF MEETINGS.

Quarterly Meeting.—The next meeting will be held at 11, Chandos Street, Cavendish Square, W., on Tuesday, May 18th, 1909.

The General Secretary will feel much obliged if members who wish to contribute papers at the Quarterly Meeting in May or at the next Annual Meeting in July will communicate with him at their earliest convenience.

South-Eastern Division.—The Spring Meeting will be held, by the courtesy of Dr. Pasmore, at the Croydon Mental Hospital, on April 27th, 1909.

South-Western Division.—The Spring Meeting will be held, by the courtesy of Dr. Nelis, at the Newport Borough Asylum, Caerleon, on April 30th, 1909.

Northern and Midland Division.—The Spring Meeting will be held, by the courtesy of Dr. Clapham and Dr. Mould, at the Grange, near Rotherham, on April 20th, 1909.

British Medical Association.—At the Annual Meeting in Belfast on July 27th to 30th, 1909, the following subjects have been selected for special discussion in the section of Psychological Medicine:

- July 28th.—(1) "Somatic Delusions and Local Lesions." To be opened by Chas. Arthur Mercier, M.D.
- July 29th.—(2) "The Sociological Relations of Insanity in Ireland." To be opened by M. James Nolan, M.D.
- July 30th.—(3) "Considerations upon the Commissioner's Report of the Care and Control of the Feeble-minded." To be opened by Wm. Richard Dawson, M.D.

The Secretaries, Walter Smyth, M.B., District Asylum, Antrim, and Sidney Clarke, M.B., County Asylum, Narborough, near Leicester, will be glad to hear from members who will take part in the discussions or offer a paper on some subject relating to the work of the Section.

APPOINTMENTS.

Brown, Mary, M.B., Ch.B.Edin., Pathologist and Third Assistant Medical Officer at Stirling District Asylum, Larbert.

Crowther, Sydney Nelson, M.R.C.S., L.R.C.P., Senior Assistant Medical Officer, Surrey County Asylum, Netherne, near Merstham.

Ellerton, H. Byam, M.R.C.S., L.R.C.P.Lond., Inspector of Asylums in Queensland, and Medical Superintendent of Goodna Asylum, near Brisbane.

Gemmill, Wm., M.A., Ch.B., Senior Assistant Physician to Ayr District Asylum.

Morton, W. B., M.D.Lond., L.R.C.P., M.R.C.S., Medical Superintendent of Wonford House, Exeter.

O'Brien, John, L.R.C.P.Edin., L.R.C.S.Edin., L.F.P.S.Glasg., Assistant Medical Superintendent of Toowoomba Asylum, Queensland.

Robertson, F. Gordon, M.B., Ch.B.Glasg., Junior Assistant Physician to Ayr District Asylum.

Ross, Donald, M.B., Ch.B.Edin., Assistant Medical Officer at the Roxburgh District Asylum, Melrose.

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Part I.—Original Articles.

The Clinical Value of Consciousness in Disease.⁽¹⁾ By
T. CLAYE SHAW, M.D.

ONE cannot but be struck with the fact that in many (if not in most) attacks of acute insanity the patient, on recovery, has no recollection of the incidents of the illness. She may have answered our questions in a way showing that at the time there was not only a consciousness of a certain kind present, but also the capacity for understanding and replying in accordance with her ideas (however unfounded they may, in fact, be), and yet on recovery, or even in a temporary lucid interval, all remembrance of the disordered state has passed away, and that, too, beyond the capacity of recall—nothing but a misty, hazy remembrance of some condition which has been passed through remains, just as one finds it impossible to re-instate the details of a dream, the reality of which was at the time vivid in consciousness. We have here to deal with a dual consciousness, a knowledge of states apparently incompatible with, and distinct from, each other. We are all familiar with states of acute mental disturbance where there is difficulty in making the patient understand what we are saying—not necessarily difficult or involved questions, but simple queries relating to what we think are matters in the patient's consciousness, such as it is. Here it is doubtful if the patients really *understand* what we are saying, though there is no doubt about their hearing the question, *e.g.*, they may hear the question

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but the reply will be merely the reiteration of some particular delusion which has no connection with the question, or there need not be any reply at all, as if we were addressing them in a foreign language which they did not understand, or as if what is said to them has a different meaning from what is intended.

I had some time ago under notice a lady whose mental infirmity showed itself as one of doubting whether or not she had done things; for instance, she constantly undressed because she was in doubt as to whether she had put her clothes on properly; she would return again and again to a room which she had left, being uncertain as to whether she had attended to matters which she should have done; she would go to the top of the stairs and then turn and re-mount them, because she was uncertain whether she had properly counted the number of them.

In grübel-sucht, or insanity of doubting—and even in the ordinary life of people not insane—there are times when one is not sure of having done some act which one purposed doing, *e.g.*, having turned off the light when leaving the room for the night, and when the state is an acute or exaggerated one it leads to acts of repetition which may ultimately be so imperative as to be painful. The *feeling element* of the idea appears to be at the bottom of this—a sense of incompleteness which is relieved to satisfaction by the carrying out of the idea just as is felt in the projection of an impulse which is merely the discharge of a tensile strain. At the bottom of this state, analysis leads us to think that imperfection or absence of the true condition of memory is at the root of it. What we did was but the self-working out of an idea which did not rise up into the consciousness of having done it. It must, therefore, have been done on one of the lower (mere automatic) planes of mental action.

In all mental processes for consciousness to occur there must be a certain *intensity* or duration of stimulus, so that *time* and *force* are the necessary co-efficients of clear consciousness. If a book is read very quickly, so that time is not allowed for the sight-stimuli to influence the central organ, there is no memory of what is read, because there is no consciousness of it, and when speaking is too rapid and blurred there is a similar absence of consciousness and memory because

of the want of time and intensity, and if a mentally sound person is unable to record his various sequences of consciousness during the day it must be very difficult for an insane person to recall the stages of processes which were not under his control, and of which, therefore, the memory is hazy.

In dreaming we may be vividly conscious, not only at the time but afterwards on waking, of all that occurred, *i.e.*, we remember having been in such or such a state with all its accompaniment, minus, perhaps, the capability of muscular action, and at times minus emotion—here the upper cerebral centres would appear to have been in more or less complete action—so that it would appear as if in insanity, as in dreaming, there may be one of two processes at work. In acute insanity there may be a dislocation or irregularity, or partial functioning of the *higher ideational centres*, full of emotional tone vivid in consciousness, where memory remains and nothing is forgotten, not even the smallest presentation being overlooked—apt to revivify itself and start into a painful consciousness, just as in ordinary conditions a passive memory is often invoked by chance associations and contiguities, only to fade away by the obliterating influences of time. Or the attack may show itself in a *lower form* of consciousness, with perhaps noise but a *less elaborate system of delusions*, with a greater display of the more instinctive and organic functional forms of mental action, but leaving only a *blurred remembrance* of what has occurred—here the weight of the disease has fallen upon *lower centres*. It might be said that if this is the case, the upper centres being less involved, the patient ought to be better able to respond to sensorial stimuli and ideas addressed to the upper centres, but it is probable that the usual channels of access to the higher brain are blocked by the intensity of affection of the lower centres, and therefore in this form there is no memory of the past because, practically, there is no true memorial past. So in dreaming there are two kinds to be explained in the same way.

In *folie de doute*—in what is called inability to make up the mind—it is as if the reflex mentalism of which most of the acts are composed (the lower centres) does not involve the conscious memory of the higher centres—the full condition of higher centres does not for the time exist, and therefore powers of attention and control do not exist—hence failure of memory and want of appreciation of what has actually been done. In

full consciousness every detail of thought and action comes into view *and is remembered*, so that it can afterwards be recalled ; this involves an appreciable amount of time, during which it may be what is called *accurately perceived* ; and if the succession of ideas or presentations is too quick, then neither consciousness nor memory exists. When we see a patient arguing with himself, as when one says, *e.g.*, "What a fool I am to listen to such promptings," it means that what is going on in the lower (impaired) centres is pushing its way into the upper unaffected realms, and is there being duly estimated. When, as in full anæstheticism, the upper cerebrum is rendered quite inactive, no consciousness, and, therefore, no memory results. The first effects of alcoholism are sense of comfort and easiness of ideation and action, with influence from the lower to the upper centres and a perfect memory afterwards. As the higher centres become more and more involved there is complete forgetfulness of acts which are not only the result of action of the lower centres themselves, but are also prompted by the *action downwards of the upper centres themselves*, these latter being uncontrollable because they arise suddenly, and have *scarcely time for true realisation before they act*, therefore they are impulsive, but they do not always pass into action.

In dreaming there is usually disassociation between ideal and motor processes, sometimes the one (ideal) being alone excited, at times the other (motor, somnambulism) process showing alone ; so it is in insanity, and it is therefore very hard at times to guess the amount of memory and consciousness remaining, because we do not always know how much the higher centres are involved, since the same clinical appearance is found both in conditions of high-centre excitement or of high-centre paralysis—*e.g.*, a man, apparently demented, not noticing anything, is able to say exactly afterwards how and what he felt ; another, to all appearances in the same condition, can tell us nothing, and we ought to be able to explain *why* this difference exists.

Is our explanation all guesswork ? To some extent it is. We have to argue from what physiologically *is* to what pathologically *should* be. We want more careful *post-mortem* analysis. Now we read, or are told, that the "upper centres were pink or congested," etc., but no attempt is made to explain whether this was *partial* or what particular tracts were involved, hence

the difficulty of correlating appearances (symptoms) with morbid states. We want more definition, and the magnitude of the difficulties urges us on to more minute inquiry.

Consciousness is for ourselves introspective, but we do many things of which we ourselves are unconscious, though others seeing us would impute consciousness to us. It is certain that there is a kinship in the human mind which enables us to enter into (of course, to a somewhat limited extent) and to appraise the consciousness of others, and this is the basis of our admiration, pity, sympathy, and agreement or disapprobation of the feelings and conduct of others; it is a sign of class-community, and would appear to separate and distinguish us from other groups of creation which show mental or nervous characteristics. So we cannot understand the minds of animals, fishes, etc., because their consciousness seems to be of a different order from ours. We can understand that they experience pleasure and pain, but we have no commensurate estimate of its limits. The consciousness that we have of ourselves in a disordered state, either mental or bodily, is totally different from that of a sound condition, and we experience the greatest difficulty (if even it is possible at all) in recalling when in the one state what we felt in the other.

Hence our reduction to guesswork of what goes on in the inner consciousness of the insane, and even the insane themselves are often little able to help us, except in a blurred and imperfect manner, of what they experienced. They have no memory of it because their consciousness at the time was a different thing altogether; it was a consciousness of a state of material which no longer exists, and therefore can have no consciousness now at all, from which it would appear that insanity is either a mixed or a pure condition—*mixed*, in that with the morbid processes there are demonstrations of the action of unimpaired tissue, and that the consciousness which exists on recovery is that of the sound tissue, which they may be able to recall, and *pure*, in that the whole of the tissue was involved in the disease, and therefore there is not likely to be any distinct consciousness when in health of what it was in disease, *i.e.*, there is no memory of it.

The difficulty which we, as outside judges, have, is to discriminate between the two classes of the internal processes, between that which is the consciousness of impaired and altered

tissue and the involvement of that which is sound, which may be expected to carry its memory and consciousness into the normal life.

According to Edridge-Green, memory is a definite faculty occupying a limited portion of the brain. It has its seat in the basal ganglia, separate from, but associated with, all the other faculties of the mind (*Memory*, p. 3). He says that the optic thalami and the corpora striata are the seats of sensory and motor memory respectively; that all sensory impressions, whether elaborated by the faculties of the mind situate in the cerebral hemisphere or by the sensory nerves, are permanently stored up in the optic thalami and constitute the sensory memory, whilst all voluntary motor impulses, however derived, leave a permanent modification of the corpora striata constituting the motor memory. He says, moreover, that the cerebral hemispheres are the seat of consciousness. It is not quite easy to reconcile the statement that whilst the basal ganglia are the seat of memory the upper centres are the seat of consciousness. Memory would seem to involve consciousness, and in most cases, but perhaps not in all, consciousness involves memory. If on this theory the basal ganglia were destroyed we should have no memory, though we might have consciousness, and the reverse would hold if the upper centres only were affected—we should retain memory, but lose consciousness. Perhaps Dr. Edridge-Green would say that the remaining memory would be merely the unconscious memory of the higher kind of reflex action. He quotes conditions of double-consciousness as illustrating the fact of memory occupying a definite portion of the brain, and he regards them as due to some lesion of the track between the left optic thalamus and the cerebrum. We are as yet without a full comprehension of what memory is, especially of what active memory—the power of recalling—is, and I prefer to believe that the upper centres are specially connected with memory and consciousness, and I point to gross appearances of lesions of the convolutions which one so frequently meets with where sensation, movement, memory and consciousness are impaired, the basal ganglia remaining intact.

There is evidence that both in dream states and in insanity the emotional side of the idea may be wanting, and this must have great effect on both memory and consciousness. In the

former of the two conditions our own experience, confirmed by that of others, is that conditions of danger, or at least of great unpleasantness, may be represented in which, though the situation is recognised, yet no corresponding emotion is felt, as though the idea and the emotion usually associated with it were disrupted, and there is no doubt that the same separation exists very often—not always—in the insane. I have over and over again noticed that people with delusions of a very depressed type do not show the emotional tone which should co-exist with the delusion. Whilst possessed by these cogent delusions they are able to go about ordinary affairs and even to joke and be merry when they ought to be the very reverse, and in the same way we may, I think, be often deceived as to the consciousness of a person in whom certain emotional manifestations are displayed. I have seen a patient moaning and wringing her hands, apparently in the deepest distress, who afterwards declared to me that she had no recollection of being in a painful condition ; and some time ago I saw a lady who acted to all external appearances as if her perception of sensations was as usual and yet in reality her mental condition was a masked one, for she really felt nothing, and in order to test whether her “sensation had gone wrong” she poured a tin of paraffin over herself and set light to it.

We are still in the dark as to the real nature of emotion and feeling, the most recent knowledge being an extension of the part in it played by visceral states. We do know, however, that consciousness is largely bound up with the emotional tone of the idea, and that where this emotional tone is slight or absent the memory of conscious states is very liable to lapse whilst the consciousness itself is most likely to be of indefinite degree. The practical advantage of knowing the degree of consciousness present in insanity is great ; it enables us to appreciate better the responsibility of the patient, and leads us not to commit the error of concluding that because acts which are to all external appearances voluntary and attended with consciousness therefore are so. In states of drunkenness it often happens that the most apparently purposeful acts are committed without there being any remembrance, and it is of little use to speculate upon the hypothesis that even here there was a consciousness of some sort present. Even granting that it was so it

was a consciousness belonging to a *diseased state* quite incompetent to determine the responsibility of a sound mind. Among suicides it is very common to find that the patient had no consciousness at all of the act, though it was apparently conducted in the most deliberate manner and with full knowledge. The same applies to homicidal acts. I have elsewhere shown that in morbid processes the method of action from sensation through emotion and idea to accomplishment is just the same as in sound processes, and it would hence appear that instead of talking about *dual conscience* there are in reality as *many forms of consciousness as there are different mental states*.

When associated ideas are normal, are of sufficient intensity and duration to excite consciousness, and either issue in action or in purposed inaction, they are remembered and we have full cognisance of them ; inasmuch, too, as in normal life there is, with the exception of the time spent in sleep, a continuity of mental processes, our consciousness is from day to day *part of a continuous whole*, and therefore the necessity of the conscious states may be expected to last, and it will be vivid according to the intensity of presentation and of attention. When, however, a condition arises in which the processes, though morbid, are of an intense and continued duration, and there is evidence of unimpaired association of idea, the consciousness of the condition may exist in memory for some time, and may be capable of recall as long as the traces of the morbid condition last, until, *i.e.*, the tissue is restored to its normal conditions, when in all probability the consciousness of the morbid state will cease. Dreams are, generally speaking, temporary morbid conditions in which the processes of association are so interfered with, whilst the duration of the state is so very brief, that we can easily account for the forgetting of them ; but when, as does happen, they are intense and occur at the waking stage, they become incorporated into the true life of the individual and therefore are better remembered.

If—as does happen—a patient who recovers from a condition of insanity is able to remember, *i.e.*, to recall, some of the particulars which he experienced when insane, he must, of course, be said to have some degree of consciousness of it, but it is as impossible for him to recall the true consciousness and the whole series of processes as it is for the insane person to

remember the true consciousness of his sound mental state, and therefore he is little able when in the one state to be responsible for what he did in the other. The sane man is no more responsible for what he does when insane than is the insane person for what he does when sane.

There are cases of insanity, *e.g.*, in some forms of paranoia, where the process of mental action appears in no way different from that of a sound state—there must be a full consciousness of what is going on, and the resulting actions are of a nature corresponding with what should happen from the nature of the motives—there is, in fact, an *insane responsibility*, but as the social system to which the responsibility would be answerable is an insane system there is no tribunal for it, and it cannot be adjudicated by a sound authority because the mental state cannot be but viewed as something altogether different from that in which the responsibility of the sound mind can be insisted on.

Accounts are apparently authentic where persons in a hypnotised state act just as sound persons do, and yet these people, when out of the hypnotised state, have no memory of the particulars of the condition through which they have passed. We must believe that the hypnotised state has a consciousness of its own, but how distinct must this have been from that of the natural condition! It is sometimes alleged that a person may suddenly develop a condition in which acts of a very complete nature are carried out in a thoroughly methodical manner, and yet the patient, who suddenly returns to his ordinary state, has incomplete knowledge of what he has passed through and of what he did. If such cases exist—I have never seen one, but I can understand the possibility of such a state of things—the condition must be allied to epilepsy, and it is impossible to dogmatise on the condition of the consciousness if even there was any of the most modified form.

My object in these remarks is to emphasise the possibility that we often attribute responsibility where we should at least be very guarded in affirming that it exists. Clinical experience is in direct favour of the assumption that consciousness in disease (mental) is a thing by itself, and that for this reason we cannot use such terms as “limited responsibility,” because the responsibilities of health and of disease are very different

things, and what is implied in the one cannot have the same annotation as the other. A man is either responsible or he is not, and we must be very careful in assigning responsibility, because some mental processes work out in a manner closely resembling those which we declare to be the forms of sanity.

(¹) A paper read at the Meeting of the South-Eastern Division at Croydon Mental Hospital, April 27th, 1909.

The Urgent Necessity of Helping Mental Convalescents.(¹)
By ROBERT JONES, M.D.

FEW subjects of late years have so much engaged public attention as the care and treatment of the mentally infirm, and the pen of almost every writer and critic has been busy over this topic.

Legislative enactments dealing with the feeble-minded, the epileptic, the blind and the dumb, also with medical inspection of school-children, with the adulteration of food, and the control of tuberculosis, together with the reports of various Departmental Committees and of Royal Commissions, including, of course, the voluminous compilation of the Royal Commission upon the Care and Control of the Feeble-minded, an able and authoritative criticism of which appears in the current *Quarterly Review* from the pen of our host to-day. All these indicate the supreme importance of sound mental and physical health in the community, which, indeed, is its greatest asset, health being no longer recognised as the concern of the individual alone, nor of voluntary associations constituted for its preservation, but being definitely recognised as the responsibility of the State, which exists as an organisation for its efficiency and protection.

Our Society, for the help of poor persons who have been discharged recovered from asylums for the insane, is to-day at its annual meeting celebrating its thirtieth birthday, and its active and useful career is fully acknowledged in the public mind as fulfilling a definite practical want in an efficient and (as the late Sir William Broadbent declared) in an economical manner. It is therefore natural and appropriate that it should find itself in the full vigour of its maturity enjoying the sympathetic

hospitality of its fairy godmother: for on the occasion of its christening in 1879 at 39, Wimpole Street, Dr. Savage declared most happily and purposively that its main object was "to facilitate the re-entry into social and domestic life" of those who had suffered the greatest calamity which dire misfortune could visit upon any human being, a misfortune of such disabling and serious consequences that it involves an illness at least two-fold in its nature, *viz.*, a disorder of the body together with a mental malady, and from which convalescence is recognised to be indefinite and uncertain. In no other convalescence, it may be pointed out, is the work of redemption fraught with so many difficulties. I cannot do better than quote a passage from a paper reported in the *Journal of Mental Science* for the year 1892, p. 462, to indicate the overwhelming need for our After-Care Association. "Those whose need is sorest are patients who are young, but there are also middle-aged women without relatives or friends; some are wives, some are widows, others are single persons in various callings, such as governesses, teachers, nurses, shopwomen, and domestic servants, employés of different kinds who have been treated in asylums, and have sufficiently recovered to justify their discharge, but have no relatives or friends to receive them, no homes to return to, no situations or positions awaiting them, although they are now both willing and able to earn their daily bread, if only such positions could be found for them."

From the date of its inception, under the fostering care of the wise and beloved Henry Hawkins, until to-day, rarely has there passed a single annual meeting without the direct and stimulating presence of our treasurer, Dr. Savage, in its support, and it is at his especial request through our earnest and indefatigable secretary, Mr. Thornhill Roxby, who for over twenty-three years has himself directed the affairs of the Society with such patient service and success, that I have consented to endeavour to represent to you the views of those who have an intimate, practical and close acquaintance with the pressing need for assistance to those who, more than any other class of sufferers, require a helping hand and a sympathetic friend.

It goes without saying that I felt much diffidence in undertaking to be the exponent of my fellow superintendents as to their views of the value of the After-Care Association, not

because there could be any differences of opinion among us upon this point. It is too late in the day for me or for anyone else to assert that the Association is the outcome of, and that it fulfils, a long-felt want, or that there is an urgent need for such a society. It has been too long established as a well-constituted and necessary organisation to need further argument in its favour in this direction. My diffidence arose more from the fear that I should not do justice to the occasion, and that I should not properly and adequately place before you the strong and special claims of this most deserving charity, for when I remember the long list of distinguished supporters which the Society has had during its active and useful career I can the more clearly discern my own incapacity and limitations. Perhaps I may be permitted to say that a long experience at two of the largest London asylums has convinced me that the Association is doing invaluable remedial and charitable work, and that an extension of its activity is only curtailed by its limited income. In work such as ours in the large asylums one cannot but be struck with the great number of men, women and young persons who have drifted hither, often through no fault of their own, and whose ruined lives are paying the penalty for our civilisation, for is not evolution and progress not infrequently at the expense of those who cannot keep the pace forced upon them? While the eager hand reaches out to grasp the prize, it is plucked away by some other of the numerous competitors, and bitter disappointment is added to mental anguish and nervous over-strain. When the conditions of life become so complex as they are to-day, prolonged and strenuous effort and high self-control are essential to success, but the prize is to the strong and the race to the swift, and there will be many unfortunate competitors unable to conform to the exacting standard required of them, a standard which tends always to rise higher. Many for this reason must necessarily drift into ill-health and poverty, and it is the opportunity of this Society to lend to such as these a helping hand to prop them up, to reinstate them, and to prevent their being left as failures upon the path of progress. That there is ample material for this Society to work upon goes without saying, for there are to-day probably more than 128,000 insane persons in England and Wales, of whom 59,000 are men and 68,000 women, and our boasted civilisation is still manufacturing

more in London at the rate of six or seven per day. In the London asylums alone there are 20,000 insane persons, of whom over 11,000 are women.

With regard to those who leave our asylums recovered, there were over 8,000 of these reported by the Lunacy Commissioners to have been discharged recovered in 1908, and in the proportion of 3,480 men and 4,540 women. In the London asylums alone, for the same period, there were 1,228 persons discharged recovered, of whom 706 were women. It is estimated that at least one in every ten of these poor women is friendless, and probably another one in ten has friends who are too poor or helpless to render any assistance, and these must go into the workhouse unless the Society helps them. The workhouse is a most undesirable and hopeless place into which to launch a mental convalescent, for an indignity is felt by the respectable, and a feeling of degradation is engendered by compulsory association with the low characters met in these places, which must invariably tend to a relapse. It is only too well known that association with the ordinary inmates of a workhouse does not tend to improve the self-respect and self-control of honest people, least of all "mental" convalescents. It is, indeed, a pitiable and cheerless prospect for self-respecting people to be compelled to undergo the degradation of the workhouse in addition to the stigma of insanity, all because our Association is lacking in the funds necessary to provide an intermediate home between the asylum and a full resumption of former duties. Under these circumstances there is much truth in Sir Andrew Clarke's dictum that "it was sad to become well."

It is seen what scope there is, even among the women alone, if these are to be adequately assisted, for London itself can supply at least 140 cases, whereas in the whole of England and Wales the number would be over 900 annually. Be it noted, however, that this charity does not limit its bounty to London cases only, nor to those of England and Wales, but is ready to assist suitable cases from all parts of the United Kingdom.

I have known clergy, doctors, barristers, officers in the army, and members of the Civil Service, who have become paupers owing to their insanity, and one frequently meets with governesses, nurses, artists, teachers, and students among women

—the female inmates of our pauper asylums—whose insanity has brought them into the rank of paupers through no fault of their own, broken down often through sheer stress of work, domestic trouble, penury, privation, or poverty, who have no friends, no relatives, no homes. Many men and women of education and refinement have sunk from their former positions in society through competition, advancing age, disappointment and failure, and these need help. It is unfortunate for our unostentatious Association that an appeal for public recognition, in order to be successful, must often be accompanied by a blare of trumpets or flamboyant head-lines, whereas such modest and quiet private work as ours is, and which cannot be given in detail from the very nature of the help, must of necessity fail to arouse interest or to elicit public support. In these days of so much legislation for one class, there is more than ever a need for help and support for the reduced middle classes, which are not clamant and do not force attention. I admit that it seems to be almost futile to preach the gospel of charity as incumbent and imperative upon all good citizens, when these citizens themselves are looked upon as “hen-roosts” awaiting their turn for spoliation! At the same time no one will deny that it is the duty of every citizen to cultivate a feeling of pity for others and to encourage charity, which has always been looked upon as the highest virtue of the Christian character, and based upon a benevolent love of others.

In early Christian times charity was particularly emphasised by the efforts made to provide for the poor by voluntary offerings, but to-day charity seems to be more akin to philanthropy, and tends more to mitigate the evil results of poverty than to combat its causes. Although our help in the After-Care Association is only given after a full and proper inquiry, I venture to think there is no one who will deny that any person who has been in an asylum is qualified to receive help. What a terrible scourge this is, how deep must have been the sufferings, and how great the terror and anxiety to friends and relations as well as to the patient himself before he is considered qualified to receive “after-care” aid. Compare this qualification with that necessary to receive assistance from other societies, and see what a depth of misery, helplessness, as well as stigma our folk have gone through before they qualify. Is it not essential, nay, imperative, that these should be assisted, yet our Society

is begging for funds, and has not adequate means to render efficient help?

One cannot but long for a John Howard, or a Florence Nightingale, or a Shaftesbury to rise again in our midst, and stir the well-to-do and the benevolent to even greater sympathy for those who are mentally infirm. Our own country has always been to the fore in charitable and philanthropic work, but as regards the insane our organisation was preceded by those of both France and Germany. At the Bicêtre and the Salpêtrière, honoured with the name of Pinel, a scheme was adopted about the year 1841, not only to assist those who had become insane and had recovered, but also to look after their children whilst the parents themselves were ill and secluded. In the year 1851 this scheme was further extended to provide an open house for convalescents, and help was given in the homes of a medical, material, and moral kind, and later an additional impulse was given to the scheme whereby it tended to minimise prejudice in regard to the treatment of insanity, and also in regard to those deemed incurable. We may be allowed to refer here to the hurtful and needless distress which prejudice against the insane causes, not only to the mental convalescent, but also to his friends, and my colleagues the chaplains of our asylums know the joy and pleasure conferred upon those suffering from mental disease by the friendliness of those outside the asylum gates. Other countries also have had their voluntary schemes, and in Germany, at Nassau, so far back as 1829 there was a voluntary society (Hilfverein) at Illeneau, Eichberg (near Wiesbaden), Düsseldorf, Brandenburg (Eberswalde), Friederichsberg (Hamburg), and from the year 1875 in the Province of Hesse. This scheme to aid patients has had a curious effect in the latter Duchy, and has been "twice blessed," for it improved the status of the asylum nurse by persuading the authorities to make a grant of 1000 marks to every attendant who had remained in the service for over six years, and it further recommended that such attendants might be employed by the State Railways or in minor offices of the Civil Service on leaving the asylums. Even in Austria-Hungary there existed, from the year 1856, for four of the asylums in Lower Austria a helping fund to assist those who were discharged recovered. Switzerland, within the last twenty years, has initiated voluntary societies for this purpose in nine of its

Cantons, and one has existed in St. Gall since 1866. Italy even preceded us in the matter of voluntary after-care for the poor insane, and a society for this purpose has existed at Milan since 1871, whilst at Reggio and in Emilio one has existed since 1874, and there are others at Malo and Turin. It is well known, perhaps, that Guislain left a legacy after his death, in 1860, to assist poor patients leaving the asylum at Gand.

In America the need for such an institution has been prominently recommended by the American Medico-Psychological Association, but hitherto no definite organisation exists for this purpose. I have been enabled to place these facts before you through the kindness of my friend, Dr. Urquhart, and further particulars of the history of this important movement up to the year 1893 may be found in a report presented at Rochelle by Drs. A. Giraud, of St. Yon Asylum, Ladame of Geneva, and Semelaigne before the Congr s des M decin Ali nistes des pays de langue Fran aise.

It may be permitted to us for a moment to review briefly the aims of our own Society, and Dr. Savage very ably summarised these at the last Annual Meeting as, in the first place, to complete recovery, secondly, to prevent relapse, and thirdly and most particular of all, to prevent continuing and permanent mental weakness ; in fact, to bridge over the gulf between the asylum and the outside world, to test the fitness of patients for living outside, and to enable those helped to make a satisfactory fresh start in life.

Many women return to poor homes, where deprivation and want cause them to break down again. Nearly four hundred women were admitted last year to the London Asylums as paupers whose occupation was that connected with home-life and domestic work, and the After-Care Association, by helping to confirm these in health, restores their self-confidence and usefulness in their former positions.

Those of us who know life in great institutions also know that long residence in them destroys that feeling of initiative and self-reliance, and, above all, that healthy independence which is so necessary for success, and unless there is a helping hand near by, such as this Association offers, the probability of relapse after discharge is almost certain, and for economic purposes alone this Society deserves to be free from pecuniary anxiety—an appeal which should have special force to the

ratepayer and to the general public. The aims of our Society present in the highest degree an altruistic rôle, for in reinstating a fallen comrade the Association fills a marked lacuna in humanity as well as in social economy. Society demands the care of the mentally infirm in asylums, but, upon their convalescence, turns them out without resources or succour. Moreover, owing to acts whilst their insanity was developing, a return to their former neighbourhood and former positions becomes not only uncomfortable to their sense of self-respect, but is also often impossible, owing to unjustifiable popular prejudices, and many of them have to begin life over again. Unlike suffers from bodily disease, for whom a situation is often kept open, the doubtful duration of a mental malady finds a situation filled up by the time the sufferer is recovered. Hospitals for bodily diseases have their convalescent homes, but mental hospitals and asylums rarely have any place where their convalescents can be further "annealed." Even discharged criminals have societies which afford relief and help to those who have left prison, yet our own Society is languishing for support.

I believe in voluntary rather than State aid for this Society, as the help afforded by such a Society as ours encourages the self-respect and self-control of honest people who do not demand help as a right, nor do they regard its refusal as a slight caused by the envy and hatred of one class towards another, or possibly even as a further argument for the redistribution of wealth and capital. I feel that the influence of such a Society as ours is wholly for good. It tends to familiarise the public with the causes and varying phases of insanity, and helps to educate both the patients and the public to value health, and to engender what Dr. Clouston calls a "hygienic conscience."

The St. John Ambulance Association has done much towards diminishing pain caused by physical causes through, one may almost say, universal instruction in "first aid," and our Society has potentiality (if the sinews of war were forthcoming on an adequate scale) to teach the public the elements of "first aid" in mental cases, and so help and supplement eugenic teaching in regard to "health and temperance." I feel sure, if the funds of the Association permitted it, that many cases would be discharged earlier from our mental hospitals and

asylums—an undoubted saving of public money, and it could also preserve the home from being broken up, until convalescence was fully established, and would thus greatly tend to diminish pauperism. In all the countries of Europe these societies organised on the basis of private initiative, and started more than seventy years ago, have thrived and developed marvellously, which demonstrates the great necessity for their continued existence.

I personally think it best that our own Society should, as organised and carried out, be independent of any one asylum, for such a constitution ensures for it national support and a wider representation on its Council. It is for each one of us to maintain its efficiency and to see that its treasury is provided with means. Although other claims are numerous, London, the largest city in the world, should remember its duty towards the most necessitous, if not the most deserving, of its helpless dependents.

(¹) A paper read at the Annual Meeting of the After-Care Association, held on February 10th, 1909.

Observations on the Blood-Pressure and Vascular Disease in the Female Insane. By JOHN TURNER, M.B.,
Senior Assistant Medical Officer, Essex County Asylum.

Introduction.

THE mere accumulation of facts is useless unless some attempt is made to interpret their significance; therefore in this paper I propose to examine my observations on blood-pressure with the design of seeing whether its routine estimation in the insane is worth while; whether from it any fairly trustworthy conclusions can be drawn as to the condition of the circulatory apparatus during life, or as to the prognosis, not only with reference to the mental disorder, but as to the prospects of the duration of life, or whether the time spent in this direction might not more profitably be otherwise employed; and further, to ascertain whether the results obtained tally with those of previous workers.

At the very outset we are met with the important question whether the method is one on which reliance can be placed? Controversy is still active on this vexed point. The introducers and upholders of blood-pressure gauges all contend that they give accurate or approximately accurate results, and that differences in the thickness of the arterial wall count for little (5 mm. of Hg.), and may be neglected. On the other hand there are many who do not believe that the figures obtained correspond even approximately with the actual blood-pressure. Dr. William Russell (1), as the result of experiments made on dead arteries, holds that the influence of the thickness of the arterial wall is so great (from 100–150 or more mm. Hg.) as to entirely vitiate the results obtained by blood-pressure instruments. Herringham and Womack (2), also as the result of experiments on dead arteries, find that the resistance of the wall of the brachial artery may vary from 4–34 mm. Hg. In the discussion on their paper Mr. P. Lockhart Mummery mentioned a very striking series of experiments carried out by him on dogs of various ages, some of which appeared to have very thick arterial walls. He connected the femoral artery on one leg of the dog with a mercurial manometer and the pressure in the artery of the other leg was taken by a sphygmomanometer. By means of a screen the person taking the pressure was prevented from seeing the manometer. The figures that he got under these conditions from the mercurial manometer and the sphygmomanometer were practically identical.

In my opinion these experiments of Mummery carry much greater weight than experiments on arteries removed from the dead body, and go far to show the trustworthiness of the instruments. Marked thickening of the blood-vessels will necessarily result in greater resistance to their occlusion, but unless this thickening is not only very marked but also very widespread over the arterial surface the results given by pressure-gauges will, I believe, be approximately correct—quite correct enough for clinical purposes.

I have employed, for the estimation of the pressure, Martin's modification of the Riva-Rocci apparatus. The observations were made daily for a week between the hours of 10 and 11 a.m., the subject sitting with her right arm, to which the bag was attached, resting on the table. The pressure was

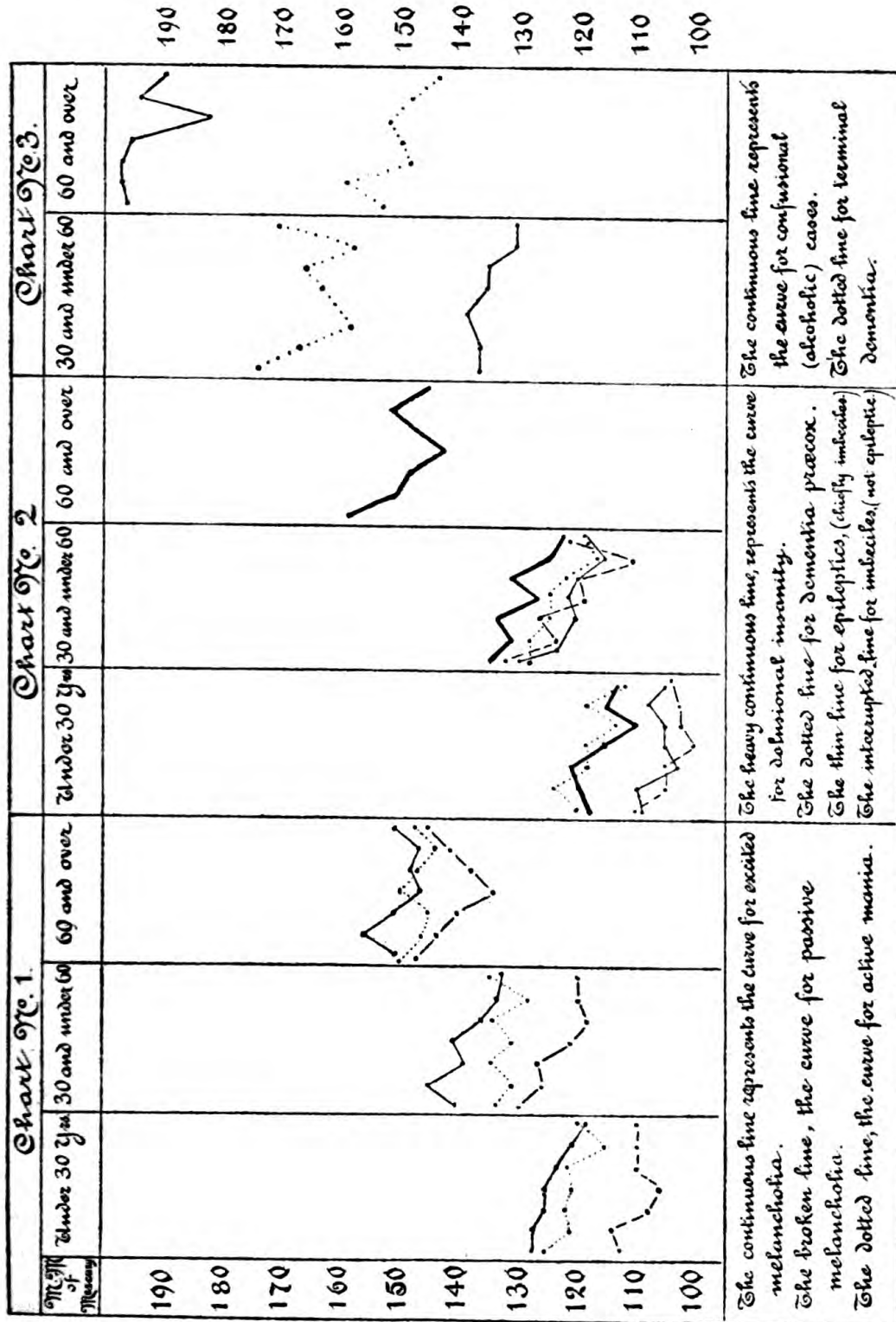
taken by my colleague Dr. de Steiger and myself on alternate days. In a very large number of cases the pressure for the first one or two days was higher than for the remainder of the time; so frequent was this that it impresses itself on the average curves, as may be seen in the charts. W. R. Dunton (4) noticed the same thing, which he was inclined to attribute to an element of fear in the subject.

The Blood-Pressure in Different Forms of Insanity.

Melancholia and mania.—Ever since M. Craig (5) published the results of his observations on the blood-pressure in the insane, it has been taken almost without question that in melancholia the pressure is high, and in mania low. Pilcz, in 1900, is stated by Dunton to have confirmed these conclusions, but I have not seen his paper. Dunton (4) states that he also finds a low pressure in motor restlessness or mental excitement, and high in depressed conditions, but judging from the few illustrations that he gives, unless he takes a very low standard for the normal, the exceptions would seem to be more numerous than the rule.

My observations do not bear out Craig's contention. I have tabulated (see Chart 1), in the three age-divisions suggested by Sir T. Clifford Allbutt, the average daily morning pressure for a week each of 42 cases of excited melancholia, and of 56 cases of passive melancholia, and 48 cases of active mania, and I find that in each age-division the cases presenting passive melancholic symptoms have the lowest pressure, the cases presenting excited melancholic symptoms the highest, and that the curve for the maniacal cases takes a position intermediate between the two. In the first age-period (under 30) the levels of all three curves are respectively lower than the three curves in the next period (30 and under 60), and these, again, are lower than those in the third period (60 and over). I may mention that practically the same results were obtained ten years ago with the aid of Hill and Barnard's apparatus; at that time, however, the pressure was taken on one occasion only in 443 persons.

In my classification all cases included under melancholia were decidedly depressed at the time the observations were made on them, and the maniacal cases were in a state of



excitement with exaltation. No melancholiacs or maniacs have been included under either head, simply because they may have been labelled under one or other of these divisions, unless at the time of observation there was an excess of emotional tone.

As has been already stated, the pressure was taken on alternate days by myself and my colleague, and except in those cases where there were marked daily variations in emotional tone, the readings for the week, unless they have been fairly constant, have not been used. Furthermore, in order to eliminate as far as possible the bias of the personal factor, each of us separately and independently worked out the seven days' pressure-curves for the cases, and although naturally the two lists did not exactly correspond, some ill-defined cases of melancholia being regarded as passive by one and excited by the other, and some cases suffering from delusional or other forms of insanity which the one did not look upon as showing sufficient emotional tone to be classified as mania or melancholia, as the case might be, were included by the other. But in spite of these discrepancies, inevitable when two independent observers endeavour to make out a list of such a character, the main trend of the figures in each list was the same.

At the present time, by the majority of alienists, melancholia is looked upon merely as a symptom, and the melancholiac of to-day is the maniac of to-morrow. Some altogether deny the existence of melancholia even as a persistent symptom, and would classify all such cases as phases in the great group of maniacal-depressive insanity. If this be true, and a high systolic pressure is characteristic of or associated with melancholic states, we should expect, in accordance with Craig's view, that in the maniacal (exalted) phases of the same individual the pressure would be low. This is not my experience. In a number of cases where the pressure has been taken in the same person at different times when labouring under different emotional states, although in one or two cases the variations corresponded to Craig's results, in the great majority of cases they did not. It was found that, generally speaking, the subject with a high pressure continued to have a high pressure whatever her emotional tone might be, and similarly the subject with a low pressure continued to have a low pressure.

We can, it is true, by the administration of drugs or by

appropriate diet alter the pressure temporarily and to a relatively slight degree, but these alterations only continue so long as the drug is exhibited or the diet persisted in.

I have been able to collect only two cases which gave results in accordance with Craig's view, and in one of these the difference between the average pressure when depressed and when exalted was only 12 mm. Hg. On the other hand I can cite eight cases where the reverse was the case, or where with marked and rapid alterations in emotional tone no corresponding change was found in the pressures.

(1) A woman, æt. 74, with a continually high pressure varying between 155 and 180 mm. During the week under observation she varied emotionally between a state of composure and cheerfulness to one of the most acute misery.

(2) A woman, æt. 35, whose pressure varied between 120 and 140. During two days whilst melancholic and lachrymose it averaged 120. During the five days whilst bright and cheerful it averaged 131.

(3) A woman, æt. 33; during a period of profound depression her pressure varied between 100 and 115. Three months later, when convalescent and bright, it varied between 112 and 120.

(4) A woman, æt. 53; during a period whilst profoundly depressed her average pressure was 108; six months later, when convalescent, the average was 124.

(5) A woman, æt. 47; during a period of profound depression her average pressure was 129; two months later, when convalescent, the average was 149.

(6) A woman, æt. 46; during a period of profound depression her average pressure was 102 (never above 105). Four months later, when cheerful and composed, the average was 111.

(7) A woman, æt. 43; during a period of profound depression averaged 103 (highest reading was 110); a year later, when exalted, garrulous, and flighty, it averaged 135.

(8) A woman, æt. 30; during a period of maniacal exaltation her average pressure was 135. Three months later, when profoundly depressed and quiet, it was 119.

The paramount factor in connection with high pressure is advancing age, and as states of melancholia are most common in advancing middle age it is easy to collect a number of cases showing a raised pressure, but my contention is that this is not

a direct or causal association of high pressure and melancholia, but an association of high pressure and advancing age. Again, taking, as some observers do, a low normal standard, it is also easy to collect together a large number of melancholiacs whose pressure exceeds this standard, more especially if no account of age is taken. The normal pressure is such a variable quantity in different observers' hands that the question whether in melancholic states there is or is not a raised pressure can only be properly estimated by a comparative view of the average pressure curves of different forms of insanity, classified under distinct age-periods, such as has been done in the construction of these tables.

Craig's belief that melancholic states are dependent on alterations in the circulation leading to high pressure is largely discounted by the frequency with which melancholia occurs with low pressure, by the frequency of high pressures in maniacal states, by the frequency of cases with marked variations of pressure without variations of emotional tone, and *vice-versâ*, and above all by the fact that there is a fairly large class of cases, mostly of middle age, in which, with exceptionally high pressure, the greatly prevailing emotional tone is markedly euphoric, namely the alcoholic confusional cases.

Other forms of insanity.—Charts 2 and 3 show the relative positions of the curves of pressure in systematised delusional insanity, in confusional insanity, terminal and organic dementia, dementia præcox, and congenital defect (imbecility with and without epilepsy). The only points that I need specifically refer to are the very low pressures in congenital deficiency and the high pressures found in the confusional cases.

As regards the first of these points, no doubt the small, ill-developed heart associated with imbecility is accountable. As regards the second it should be pointed out that all the cases grouped as confusional were alcoholic, and all (unless we must except two of delirium tremens) were instances of Korsakoff's polyneuritic psychosis. Ascherson (6), in his valuable monograph on alcoholism, states that in polyneuritic psychosis the pressure is low. This has not been my experience in the majority of my cases. I find two groups: in one, much the smaller, the pressure is normal or low; in the other, much the larger, it is very markedly raised. And as all the characteristic symptoms of this disease, especially the euphoria, and the

amnesic disorders are as well shown in the one group as in the other, it would seem as if one was justified in not attributing these symptoms to alterations of pressure.

TABLE I.

	Average blood-pressure.		
	Under 110.	Between 110 and 130.	Over 130.
Emotional tone :			
Apathy	13	15	6
Composure	26	19	20
Exaltation	22	35	32
Depression	33	27	39
Delirious	6	1	3
Varying	—	3	—
Pulse-rate :			
50-59	2	—	—
60-69	9	5	8
70-79	30	21	26
80-89	29	36	25
90-99	13	27	21
100-109	9	10	16
110-119	6	1	3
120-129	2	—	1
Irregular	6	8	11
Albumen in urine	38.1 per cent.	29.8 per cent.	53.3 per cent.
Average age	31	34.5	48

Table I gives an analysis of three hundred persons ranged under three divisions as regards pressure : (1) Those in whom the average pressure was below 110 (low) ; (2) those with an average between 110 and 130 (normal) ; (3) those with an average above 130 (high). The emotional tone at the time of observation is given, the pulse-rate and regularity, the results of the examination of the urine for albumen, and the average age. In the compilation of this table no attempt has been made to separate the excited from the passive melancholiacs—there were more depressed cases in the third (high) column than in the second (normal), but on the other hand there were more melancholiacs in the first column (low) than in the second. I believe that the greater number of cases in the third column is due to the incorporation of excited cases with passive, the

former having, according to my experience, the highest average pressure of the three affective classes. The average age rises with rise in pressure. The albumen figures are rather curious; whilst there are 53·3 *per cent.* showing albumen in the urine amongst cases with a raised pressure (H. Batty Shaw [7] found it in all but one of twelve cases under his care), the next highest percentage is not among the cases with normal pressure, but among those with the lowest. Possibly this may be accounted for by the fact that shortly before death the pressure is apt to fall as compensation gives out, so that in this column are liable to be included a greater number of sick persons. As bearing this out it may be mentioned that five of the cases in this column which had albumen in the urine died shortly after admission (from one to three months), and two more were general paralytics.

These figures, however, concerning albumen can only be looked upon as a rough approximation, for in the majority of cases the urine was only tested once.

Charts 1, 2, 3, and Table I show that, however we may classify our cases, the one great characteristic is the gradual rise of pressure with advancing age. To this statement the only exception is with terminal dementia when the average pressure in the second age-division is higher than that in the third division, but this may probably be accounted for by the fact that the average in the second division represents only four cases, whilst the average in the third is the average of thirteen; with larger numbers probably the height of the curve would be considerably lowered.

Relation between Coagulation-rate and Blood-pressure.

Observations have been made on the coagulation-rate of the blood by Wright and Paramore's method in forty-five cases of insanity and seven control cases (nurses). Each case was examined for fourteen days, and three samples tested on each day between the hours of 11 a.m. and noon. The blood was kept at a temperature of 37° C.

Although T. Addis (8) has recently cast doubts on the trustworthiness of Wright's method, it would appear from the examination of my results (representing over two thousand observations) that although occasionally errors may creep in,

on the whole the results are sufficiently reliable for clinical purposes.

My reasons for making this statement are: (1) that the average rate for the same subject on different occasions is fairly uniform; (2) the average difference between the sample of blood which coagulated in the quickest time and the sample which coagulated slowest of the three samples tested each day is fairly uniform, in other words the cases whose blood show the shortest minimum average also show the shortest maximum average, and *vice-versâ*. If the method was not in the main trustworthy such uniform results would scarcely be expected.

A serious drawback to Addis's method, even if its reliability is established, is that its elaborate character, and the rather cumbrous apparatus required for it, disqualify it for clinical purposes. There is no doubt that a serious drawback also to the apparently simple procedure in Wright and Paramore's method is in the direction of the personal factor of the operator, and until one has become sufficiently expert so that approximately the same time is taken filling the tubes, and the same time on each occasion of testing when they are withdrawn from the warm water, the results cannot be depended on. For this reason, and because few independent workers will be equally quick and expert, too much dependence cannot be placed on a comparison of the results of one observer with another as to the normal time of coagulation in individual cases, but the comparative results of any one worker who has fulfilled the necessary requirements for carrying out the tests will, I believe, afford valuable information on the question of the coagulation-rate of the blood and its variations under different circumstances.

My results show that there is a slight tendency for the higher blood-pressures to be associated with slower coagulation. Thus in the 20 cases in which the coagulation-rate was the slowest the average was 153 seconds, whilst the average blood-pressure was 127 mm. Hg. In the 20 cases in which the coagulation-rate was quickest the average was 128 seconds, whilst the average blood-pressure was 121. In several cases the daily variation between height of pressure and slowness of coagulation, and *vice-versâ*, were fairly constant. The above relationship is, however, liable to be masked by other factors; still, it is sufficiently well shown to indicate

that a quickened tendency to coagulate is not correlated with greater viscosity of blood.

It does not seem at all necessary from *à priori* reasoning that a greater viscosity should imply a greater tendency to coagulate, for probably the production of coagulation is dependent on the formed elements of the blood, and the corpuscles may imprison a substance without the aid of which coagulation cannot take place, and until this substance is set free coagulation remains in abeyance. The greater tendency to coagulate might therefore depend on a greater tendency of the corpuscles to disrupt and shed their clot-producing substance; under these conditions it would be quite possible for a lowered viscosity to coincide with greater tendency to coagulate.

Correlation of Blood-pressure Observations and Post-mortem and Microscopical Examination of Cases.

A *post-mortem* examination was made on 43 cases in which the blood-pressure had been taken during life. In 25 of these there were signs of a more less general arterio-sclerosis.

TABLE II.—*Showing the Age-incidence of General Arterio-sclerosis in Relation to Height of Blood-pressure.*

Average blood-pressure.	Age.					
	20-29.	30-39.	40-49.	50-59.	60-69.	70-85.
Above 130 mm.Hg.	1	—	2	6	2	6
Below 130 mm.Hg.	—	4	1	1	1	1

In 17 the pressure was raised, in 8 (32 *per cent.*) it was not. Groedel, of Nauheim, quoted by Sir T. Clifford Allbutt (9), found no rise of pressure in 35 *per cent.* of his cases of arterio-sclerosis.

Atheroma of the aorta was found in 28 out of 42 cases (66.6 *per cent.*) in increasing numbers with advancing age (see Table III). The average pressure was over 130 in 17 of the 28 affected cases, and below 130 in 11. It is worthy to note that

3 out of 9 general paralytics, æt. respectively 42, 45, and 51, had perfectly healthy aortas, so far as could be ascertained by naked-eye inspection, so that the proportion of general paralytics in this list who had atheroma of the aorta was exactly the same as the general average.

TABLE III.—*Showing Incidence of Atheroma of Aorta.*

Average blood-pressure.	Age.											
	15-19.		20-29.		30-39.		40-49.		50-59.		60 and upwards.	
	Ab-sent.	Pre-sent.	Ab-sent.	Pre-sent.	Ab-sent.	Pre-sent.	Ab-sent.	Pre-sent.	Ab-sent.	Pre-sent.	Ab-sent.	Pre-sent.
Above 130 mm.Hg.	—	—	1	—	—	—	1	2	—	5	—	10
Below 130 mm.Hg.	1	—	1	—	3	4	4	1	2	1	1	5

In 27 of the cases the kidneys were small and granular, and in 12 of these there was no rise of pressure found during life ; nevertheless, if one takes into consideration the pressure and the weight of the heart and kidneys in a number of cases, it is found that the height of pressure is in direct relation to the weight of the heart, and in inverse relation to the weight of kidney substance. In 40 of these cases it was found that in 21, where the average pressure was low (116, the highest being 122), the average weight of the heart was 231 grammes, and of the kidneys 253 grammes. In 19 cases where the average pressure was raised (157) the average weight of the heart was 268 grammes, and of the kidneys 191 grammes.

The very important part which circulatory disorders play in the ætiology of insanity is indicated by the very great frequency with which affections of the renal vessels occur. In 34 female cases (including 7 general paralytics) where a microscopical examination of the kidneys was made, 27 (79 *per cent.*) showed endarteritis frequently in a very marked degree. The accompanying table gives the age-incidence of the cases, and the large proportion affected in the second period shows that the condition is not solely a result of involutional changes accompanying senility.

TABLE IV.

Renal vessels.	Age.				
	10-19.	20-29.	30-39.	40-49.	50 and over.
Endarteritis	1	6	5	5	10
Natural	2	2	1	2	—

In all these cases, although the livers also were examined microscopically, the number of cases in which alterations of the blood-vessels, especially in the direction of endarteritis, was met with was very few, showing that the affection of the renal vessels was the result of a local and not of a general cause.

According to O. Klotz (10) there are two forms of arterio-sclerosis which have been established experimentally. In one, the Mönckeberg type, the alteration is primarily and essentially a degeneration of the middle coat, any intimal change which may occur being only secondary. In the other, Jores' type, the alteration is essentially an intimal change. Klotz mentions enteric fever and streptococcal infections as producing an arterio-sclerosis of the second type. It is an interesting speculation whether there may not be a causal relation between the endarteritis, so common in the renal vessels, and intra-vascular toxins. As the kidney is the great depurative organ of the body, it might be that the chief stress of these toxins is exerted on the vessels of this part, resulting in a localised endarteritis.

In twenty cases in which the brain (and frequently the cord) was examined microscopically, alterations in the smaller blood-vessels were noted in half the number. In two of these there did not appear to be any thickening of the walls, but merely the infiltration of the peri-adventitial space with cells, characteristic of general paralysis; in the other eight there was hyaline degeneration and thickening, and in one (alcoholic) case marked endarteritis as well.

In six of these twenty cases the pressure during life was high, and among these six the cerebral arteries were natural in three.

A normal pressure, or at all events a pressure varying between 100 to 120, may coincide with apparently all the

factors generally considered requisite for the production of a high pressure.

The accompanying table gives the age-incidence of these twenty cases.

TABLE V.

Cortical vessels.	Age.				
	10-19.	20-29.	30-39.	40-49.	50-59.
Natural	1	2	3	3	3
Diseased	—	1	3	1	3

Concerning the Factors which Control the Blood-Pressure.

Although the problem as to the cause or causes of alteration in blood-pressure is mainly one to be resolved by experiment, clinical observation in conjunction with changes found in the vascular mechanism are also of considerable value in forming an opinion, if only from the point of view of tests, as to the truth of experimental research.

The factors which control the blood-pressure are: (1) Primary, the force of the heart; and (2) secondary, the viscosity of the blood and the peripheral resistance of the vessels.

Although the secondary causes can only come into play as raisers of blood-pressure, in conjunction with the primary, it is evident that existence can be no longer possible when the pump is unable to force the blood through the channels which are offering increased resistance, and therefore there must be with this latter a corresponding augmentation of the force of the heart-beats.

Increase in the viscosity of the blood appears to be a potent factor in raising the pressure. It has been shown by McCasky (10) that the viscosity undergoes considerable fluctuations as the result of physiological changes connected with food, drink, and exercise, and under pathological conditions these changes are much greater. In the majority of cases of chronic Bright's disease it is lowered, but probably in

earlier stages it is increased. Venesection lowers it; alcohol increases it.

It is chiefly from the point of view of increasing the peripheral resistance that alterations in the circulatory mechanism have been studied experimentally, by producing lesions in the vessels whereby their elasticity is impaired and their lumen diminished. Josue, in 1903, showed that injections of adrenalin into the vessels of animals not only raised the pressure but also produced atheroma and calcification of the aorta. Barium chloride produces similar effects.

Some important experiments by Vincent and Sheen, Tigerstadt and Borgmann, and H. Batty Shaw (7), show that when once the parenchyma of an organ reaches the circulation changes take place in vascular tension, generally depressor, but with kidney parenchyma the effect is pressor, and striking in extent and duration, and one experiment by Batty Shaw, where the vagi were cut, seemed to show that the rise was not due to a central stimulation of the heart, but to a peripheral effect.

The general opinion at the present time would seem to be that elevation of blood-pressure alone is incapable of directly causing degenerative changes in the vessels. Batty Shaw states that there is no experimental evidence that it can do so, and Dr. Newton Pitt (12) remarks: "If it were the main factor the changes would be diffuse and not patchy. A permanently high pressure, however, by exhausting the elasticity of the tissues would predispose them, in the presence of noxious agents, to undergo degeneration."

It has been shown that the rise of pressure produced by the intra-vascular injection of adrenalin has nothing to do with the degeneration in the coats of the vessels, for if sufficient amyl nitrate to neutralise the pressor effects of the adrenalin is injected at the same time, although no pressor effects follow, yet the degenerative changes are unaltered.

In the opinion of H. Batty Shaw, clinical and experimental observations support the view that maintained hyper-tension may be due to entrance of kidney substance into the circulation, and I shall point out that probably gland-cells from the kidney and liver are commonly met with in the blood-stream. Arterio-sclerosis (using the term in its clinical form merely to denote thickened arteries) is unassociated with raised pressure

in from 33 to 35 *per cent.* of the cases. And as regards granular kidney, although, as might be expected, the contraction of such a large vascular organ would influence the pressure, and although doubtless it does so in many cases, yet, as I have shown, the number where no rise occurs falls little short of half.

Thus it would appear that conditions resulting from general arterio-sclerosis or granular kidney, that is to say, conditions affecting the size of the lumen of the peripheral vessels are not always adequate to account for heightened pressure, and in many cases there must be some other factor at work, and there is histological evidence which points to this factor being, as Batty Shaw suggests, the entrance of gland-cells into the blood-stream.

Salaman (13) in 1907 drew attention to the presence of free cells in the sinusoids of the liver, which he considered as "almost certainly" "gland"-cells. I also have frequently noted free cells in the larger vessels of the livers of the insane which appear to be identical with gland-cells. It is not difficult to account for these cells in this position when we recall the mode of development of the hepatic sinusoids, where, as Schäfer (14) remarks, the endothelium may in places become defective, so that the blood within the sinus comes into actual contact with the cells of the organ.

In the larger vessels of the kidney appearances indicating the presence of shed gland-cells are quite as common as in the case of the liver. Not only single cells apparently identical with the parenchyma are seen, but sometimes quite long strips of five or six cells joined end to end, a condition which appears as almost conclusive evidence that these elements are indeed gland-cells shed *en masse* from the tubules. If these cells, therefore, can gain access to the blood-stream, and if they have the properties which Batty Shaw and others have claimed for them, we have here a means by which the blood-pressure may be profoundly affected, this affection taking the form of a rise of pressure when the kidney-cells predominate in the blood-stream. But inasmuch as numerous clinical and histological observations show that resistance to the peripheral circulation is not always adequate to account for persistent rise in pressure, it would seem probable that the pressor effects of the renal cells must be due, in part at least, to a central or stimulating effect on the heart, although, as I have mentioned, Batty Shaw

records one experiment which appeared to point to the effect being entirely peripheral.

As the result of the presence of hepatic substance in the blood-stream is to produce a depressor effect on the pressure, and as free liver-cells are quite as frequently seen in the blood-vessels of the liver, it may well be that whether or no a raised or lowered pressure is met with is in part at least due to the preponderating effect of either kidney or liver substance in the circulation.

Summary and Conclusions.

(1) That there is no definite relation between pressure and exalted or depressed emotional states, but the very general occurrence of higher pressures with the first few readings on consecutive days in any individual case suggests that there is some nervous condition at work which has the effect of interfering with the pressure.

(2) The only condition revealed by collating a number of sphygmomanometer observations which has a constant relation to height of pressure is advancing age.

(3) From pressure observations alone only a very rough opinion can be educed as to the structural alterations of the circulatory mechanism.

(4) Height of pressure and slow coagulation-rate are generally associated, but this is a rule to which there are many exceptions.

(5) The high percentage of the smaller blood-vessels, especially renal, which present microscopically structural changes, points to the great importance of vascular lesions in the histogenesis of insanity.

(6) Evidence, in the form of free gland-cells in the blood-stream, is recorded which lends support to H. Batty Shaw's view that in some cases heightened blood-pressure may be due to the entrance of kidney substance into the circulation.

In view of the fact that vascular changes are so frequently met with in the insane, I think that the routine record of the blood-pressure in conjunction with histological examination of the blood-vessels is likely to result in a better understanding of the factors which control the circulatory mechanism, and if only for this reason is a measure which fully justifies the time it occupies.

I am under great obligations to my colleague, Dr. de Steiger, for her assistance in taking pressures, in compiling the charts, and preparing the paper for publication.

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DISCUSSION

At the Quarterly Meeting in London, May 18th, 1909.

Dr. DAWSON said he had made observations in a small way on the blood-pressure in the insane, but not in so thorough-going a manner as Dr. Turner, partly because that could not very well be attempted in the case of private patients. But he was able to say that up to the present, almost without exception, the melancholiacs had been found to show high blood-pressure. When one came to deal with cases which were maniacal, there was, in his experience, no very constant form of blood-pressure found. Cases of pure acute mania in youngish people would be those in which one would expect to find low blood-pressure constantly if Dr. Craig’s theory were correct. He remembered, however, a case of mania with high blood-pressure, in which, when the patient recovered, the pressure went still higher, so that one would have to compare the blood-pressure in health, when the patient recovered, with that during disease, in order to determine whether it was lower or higher than usual during the attack. There were many interesting points in Dr. Turner’s paper, and he regarded it as a most valuable contribution to the subject. Yet, at the same time, the number of observations which others had made seemed to show that there was a general connection between high blood-pressure and conditions of mental depression and stupor, and, on the other hand, between low pressure and conditions of simple exaltation and excitement. These observations would have to be accounted for in some way, and therefore he did not think the matter could be quite so easily dismissed as Dr. Turner appeared to think.

Dr. GREENLEES said that some years ago he tried experiments on his patients in regard to blood-pressure; and although in some points his observations agreed with those of Dr. Turner, in others they did not. In his own cases of mania, as a rule the pressure was low, while in melancholia, especially of the stuporose form, high. In the majority of his cases of general paralysis, in the first stage, the pressure was low, in the middle stage it was high, while in the last stage very low. In dementia the pressure was high. In one curious respect his observations did not agree with Dr. Turner's, namely, in regard to imbecility. In even comparatively young subjects he had found high blood-pressure. He did not know whether Dr. Turner had investigated that very much. He formed the idea that the condition was due to resistance in the ultimate capillaries, probably from increased tissue around and in them, a condition of the brain somewhat similar to that found in the kidney in cirrhosis. He had listened with great pleasure to Dr. Turner's paper.

The PRESIDENT said he was sorry that that very interesting and laborious paper had not led to a more discursive discussion. The reason might be that some of those present had been sitting in the building practically continuously since 10 a.m. With regard to the matter of the paper, he had found in a good many experiments that there was no very constant relation between the blood-pressure and the state of exaltation or depression of feeling. If, however, instead of taking the absolute pressure, one took the pressure in comparison with what it was likely to be, what the normal was at that time of life, then he thought results which were a little more constant would be obtained. He meant that one often finds, in a case of melancholia in a young person, that the pressure was low, *i.e.*, low considered for a person in advanced life, but not low for a young person. In the great majority of cases of mental depression he thought the blood-pressure was raised; but the converse was by no means true; and there were many cases in which blood-pressure was raised to a high pitch, and in which there was no depression at all. He remembered a case in which the blood-pressure was 235 mm., and the patient was excited, joyous and buoyant. In his own mind he was convinced that there was no constant relation at all between a low blood-pressure and a sense of well-being, or between low blood-pressure and bodily vigour. Not infrequently there was low blood-pressure with a sense of well-being; but, on the other hand, the converse might be the case—low blood-pressure with, not great depression, but some dulness. The coagulation-times he had been investigating for a long time, and he had been very interested to hear Dr. Turner's results, and to learn from him that he considered Wright's method satisfactory. He, Dr. Mercier, did not know of any method of estimating the coagulation-time which would give uniform results. He did not care what method was used. If one took blood from the same person at the same sitting, under the same conditions as far as it was possible to judge, it would be found that the blood in different specimens coagulated at different times—times differing by as much as 10, 15, 20, and 30 *per cent*. That being so, it seemed to him that the estimations of coagulation-time were of little value, and unless the observations were very numerous indeed the experimental variations could not be excluded. Even after a large number of experiments the extremes still remained very widely different. He did not think it was safe to draw any conclusions from coagulation-times. *A priori*, it seemed absurd to suppose that different portions of the same drop of blood, and different parts of the blood out of the same blood-vessel drawn at the same time, could have different clotting times. And it was very unlikely that different portions of the blood, circulating as it did and being intimately mixed, and practically stirred up together, and therefore presumably uniform throughout, should be so differently constituted as to coagulate in widely different times. One must suppose that the difference was in the conditions after the blood had been withdrawn from the body. But with the most scrupulous care to render those conditions completely uniform he had failed to produce uniform coagulation-times, even in different portions of the same drop of blood. And if that had been found impossible in the same drop of blood how could one expect trustworthy coagulation-times in blood drawn from the body at different times? Even when the conditions were as uniform as one could make them, and when everything was considered—the tubes made chemically clean and exactly calibrated (because the latter was a very

important matter) and the length of time during which the blood remained in the tube—it would be very difficult to obtain anything like uniform results. He did not think that observations concerning the coagulation-times were of any great value, especially now that it seemed fairly well-established that those drugs which were thought to have an influence on the coagulation-time, although they produced the clinical effects with which they were credited, acted in some other way than by affecting the coagulation-time.

On the Wassermann Reaction, and especially its Significance in Relation to General Paralysis.⁽¹⁾ By CARL HAMILTON BROWNING, M.D., Lecturer on Bacteriology in the University of Glasgow, and IVY MCKENZIE, M.B., Carnegie Research Fellow. (From the Pathological Laboratory of Glasgow University and Western Infirmary, Glasgow.^[2])

THE discovery by Schaudinn of the *Spirochæta pallida* was the starting-point of an extensive series of investigations which have thrown much light on the nature of syphilitic infection and its consequences. Reliable authorities are agreed as to the ætiological relationship between this organism and syphilitic disease, and its presence can with ease be demonstrated in chancres, syphilides, and the tissues of cases of congenital syphilis. In tertiary lesions its presence has been noted in gummata and in aortitis, though only in a very few cases. In the so-called para-syphilitic diseases it has not yet been seen. If it be the case that the presence of the organism be indispensable to the production of tertiary and para-syphilitic lesions, the difficulty of demonstrating it may be due to one or both of the following causes : (1) The organisms may be present in another form representing a different stage in their life cycle ; or (2) they may be so few in number as to render demonstration extremely difficult, as is the case with the tubercle bacillus in the lesions of chronic fibroid phthisis. The difficulty consequent on a paucity in numbers may be enhanced by difficulty in staining. Two methods of staining the spirochæte are in use—Giemsa's stain for film preparations, and a silver impregnation method for the examination of tissues. It is a remarkable fact that tissue which shows enormous numbers of silver impregnated organisms may show very few or none at all in the films stained by Giemsa's method, while on the other hand

we have noted an extreme variability in the extent to which impregnation by silver may be obtained ; for example, if the tissues of a syphilitic infant be fixed soon after death and while still in a very fresh state, impregnation may be very slight in some parts and distinct in others ; thus, in the case of a syphilitic pneumonia, the organisms in the fresh proliferating pneumonic tissue are not seen, or are represented by delicate spirals which are recognised with difficulty, while in the desquamating and degenerating epithelium of the bronchi they may be much more distinct. It is, on the other hand, a striking fact that the spirochætes in a syphilitic fœtus which has been dead for some time are usually impregnated easily with silver, and this is in accord with other observations in the use of the silver impregnation method in demonstrating structures.

The conclusions based on the demonstration of the spirochæte in the lesions of syphilis have been amply substantiated by experimental work. The organisms have been demonstrated in the lesions of experimental syphilis in monkeys ; they have been inoculated into the cornea of the rabbit and transmitted through a series of these animals, after which the introduction of infected cornea beneath the eyelid in apes led to syphilitic infection in which spirochætes were present. Hoffmann has succeeded in inoculating an ape with the cerebro-spinal fluid of a man suffering from a papular syphilide.

Not less important than these discoveries is the fact that chemical changes peculiar to syphilis may be demonstrated in the blood-serum of those suffering from syphilitic or so-called para-syphilitic disease. The evidence of such chemical change consists in this, that syphilitic serum in the presence of an alcoholic or watery extract of liver, or other tissue rich in lipoid substances, is capable of inhibiting the action of hæmolytic complement. This is shown by placing a mixture of the patient's serum and organ extract in contact with the complement (fresh guinea-pig's serum) for one and a half hours at 37°C ., and subsequently adding red blood-corpuscles adequately sensitised beforehand by the addition of the homologous immune serum. Absence of lysis in the added corpuscles after further incubation for an hour at 37°C ., constitutes a positive reaction and indicates that the serum proceeded from a case of syphilis. It may be added that while lipoid compounds are probably the active agents in the organ extract, on the other

hand nothing is known as to the nature of the substances in the serum (or cerebro-spinal fluid) which give rise to the reaction. Fresh normal human serum in the presence of organ extract may possess the property of deviating complement to a slight extent, but this is abolished by heating for half an hour at 55°C ., while in the great majority of syphilitic sera (80 to 90 *per cent.*) the property is still present after such treatment. The reaction was at first considered by Wassermann and his collaborators to depend upon the receptors of the spirochætes in syphilitic liver acting in conjunction with specific anti-bodies in the syphilitic serum. It has, however, been established that the effect is not due to the presence of the specific syphilitic antigen, but that a great variety of lipid compounds may serve to produce similar results along with a syphilitic serum. Thus the reaction is not a specific one in the usual biological sense of the term.

It has been pointed out that in the very early stages of syphilitic infection the complement-deviation test may be negative. The earliest cases which we have examined were three in the second month of the chancre, and all were positive. Levaditi, Laroche, and Yamanouchi state that the reaction becomes notable from the fifteenth to the thirtieth day after the appearance of the primary sore. Practically every case in the second stage with constitutional signs gives a positive result. In the latent period, that is, in cases where there is a history of syphilis but no symptoms, there is a negative reaction in 50 *per cent.* of the cases. In the later stages of the disease, in gummata, and in the para-syphilitic affections, the serum reaction can again be obtained in practically every case at some stage of the condition ; in thirty-two cases with gummata we have found a positive reaction in thirty-one, and in thirty-four cases of general paralysis only two have been found negative. These negative cases of general paralysis were examined early in the course of the disease, while all the others were examined at a later stage, and this accords with the general finding that in advanced cases the amount of deviation is very considerable. The important point, then, is that the reaction does not become apparent until some time after the appearance of the primary sore ; in the secondary or acute stage it is usually present ; in the latent period it is often absent ; while in the tertiary and

advanced para-syphilitic conditions it is usually present. It is only in cases of locomotor ataxy and general paralysis that the cerebro-spinal fluid has been found to give the reaction. The substance or substances in the serum which give rise to the reaction are peculiar to syphilis. This is true, at least, as far as the diseases common to this country are concerned. In the blood-serum, however, of cases of trypanosomiasis and frambœsia such changes may occur; the constancy and the degree of the reaction in these latter conditions is, however, unknown, but that it does occur is certain.

With regard to the significance of the deviation-reaction, it must be admitted that it is as yet impossible to say whether or not the fact that a serum yields a positive result is a proof of the presence and pathogenic activity of living organisms in the host. The frequent absence of the reaction in the latent period, its absence in some cases of early general paralysis, and its notable presence in the later stages might be explained on the hypothesis that some intercurrent condition may call from abeyance into renewed activity metabolic processes which were originally set up as the result of the syphilitic infection.

With reference to trypanosome infection it is now accepted as a fact that sleeping sickness, or negro-lethargy, and trypanosome fever are different phases of the same disease. The infection with trypanosomes is conveyed by a biting fly (*Glossina palpalis*), which carries the parasite from one host to another. The various stages of the disease cannot be sharply demarcated; the first stage or latent period, which includes the time that elapses between the bite from the fly and the first appearance of symptoms, is very variable, and may be anything up to seven or eight years; in this prodromal stage the presence of organisms can usually be demonstrated by examination of the blood or the juice of the lymph-glands; the occurrence of some change which disturbs the relation of mutual accommodation between the parasite and its host would apparently give rise to the second stage known as trypanosome fever. The onset of this second stage is marked by severe headache and attacks of fever resembling malaria; transient œdema of the face or limbs may be accompanied by a rash of erythematous, urticarial or erysipelatous character; the spleen is usually swollen; in this stage the organisms are easily recovered from the blood or lymph-glands. Following this

phase there may be apparent recovery, or after months or years of well-being the third stage, known as sleeping sickness, may supervene. The symptoms here are slight at first and the progress of the condition is slow. Disinclination to work, exhaustion on slight exertion, and slight transient œdema of the face may be the first signs. The nervous changes, however, gradually assert themselves in a more definite manner; a previously industrious and reliable worker may become careless and unreliable, and a cheerful and happy disposition may give way to a morose and melancholy turn of mind; acute maniacal attacks are not infrequent; there is marked tremor of the tongue, the speech may be stuttering or *staccato* and there is difficulty in pronunciation. According to Mense the clinical picture of the disease presents features which are fairly constant, more so in young people than in adults, and in negroes than in Europeans. He points out that in this stage, also, after symptoms have become pronounced, a period of apparent well-being, it may be for months, may ensue; on the other hand the natural course of the disease may be interrupted by epileptiform attacks, convulsive seizures of laughing and weeping, and periods of great talkativeness. Hallucinations of various kinds may be present, and attempts at murder or suicide have also been noted. In the great majority of cases, if not in all, the disease progresses to a fatal issue; the appetite, which was at first good, gradually diminishes, and the patient, falling into long periods of sleep, loses flesh, develops decubitus, muscular contractures and abscesses, and dies perhaps as the result of the secondary infections to which his weakness and decubitus have exposed him. The great similarity to general paralysis is thus evident.

Coming now to the anatomical side of the question, not only is there a polyadenitis in early trypanosomiasis as in early syphilis, associated with the presence in the lymphatic tissue of trypanosomes on the one hand and spirochætes on the other, but the lesions in the brain are similar in both cases in the stages of sleeping sickness and general paralysis. Further, it is to be noted that there is a great similarity in the character of the lesions in all stages of syphilitic infection—in primary, secondary, and tertiary, and also in para-syphilitic lesions there is an infiltration of plasma-cells and lymphocytes with marked perivascular arrangement. This perivascular

exudate of lymphocytes and plasma-cells, which was thought to be pathognomonic of general paralysis, is now acknowledged to be a constant feature of late trypanosome infection. It is an interesting fact that in the *mal-du-coit* of horses an ataxic paraplegia occurs with posterior root-degeneration and sclerosis of the posterior columns of the cord, and Spielmeyer, by experimental trypanosome-infection of dogs, has produced optic atrophy and a lesion of the posterior columns of the cord simulating the ataxic lesion.

Reviewed shortly, the points of resemblance between trypanosome and syphilitic disease are as follows :

(1) In trypanosomiasis the infecting agent is a protozoon, and this is probably also the case in syphilis ; both diseases may be transmitted to animals.

(2) In experimental trypanosomiasis it is possible to demonstrate a change in the blood-serum resembling that found in syphilis and so-called para-syphilitic disease (the Wassermann reaction).

(3) There is a considerable similarity as regards early lymph-gland involvement, early febrile and constitutional disturbance with exanthemata, periods of latency, and late involvement of the central nervous system.

(4) The cellular character of the lesions are similar in both cases ; lymphocytes and plasma-cells play a prominent part in the reaction, and the perivascular infiltration in general paralysis closely resembles that seen in sleeping sickness.

The failure to demonstrate the organism of syphilis in general paralysis constitutes the missing link in the chain of comparison, though the similarity of the anatomical changes in sleeping sickness and general paralysis, and the association of the former with the presence of trypanosomes in the cerebro-spinal fluid strongly suggests the possibility that the syphilitic virus is an active agent in the production of para-syphilitic disease.

Mott has recently brought the older theories concerning general paralysis into line with modern investigation. He has shown that the clinical observation of "no syphilis no tabes" has been strongly supported by the bio-chemical reaction, and he attempts to show how the substances which are supposed to interact in this test are related to the substances concerned in the breaking down of the nervous system. He takes his stand

on the hypothesis that general paralysis means a premature decay of certain neurons brought about by damage received in the early syphilitic attack, since it has been supposed that "the nerve elements, being perpetual, and having acquired a habit of increased metabolic activity, will continue it during life, and will contribute to the excess of lipoids in the blood"; and he advances the theory that it is in virtue of the entrance of the products of the degeneration of nervous tissue into the blood and cerebro-spinal fluid that they yield the reaction. It must, however, be borne in mind that while increased dissimilative metabolism occurs in many diseases, it is only in syphilis, trypanosomiasis and framboesia that a positive Wassermann reaction has up till now been demonstrated; and this is true whether the reaction depends on the quantitative or the qualitative character of the substance or substances involved.

Now if it is to be suggested that the *contagium vivum* of syphilis is still active in general paralysis, we must inquire what interpretation is to be put on certain outstanding features of the disease in the light of such a hypothesis. Let us consider the following points:

(1) The immunity of general paralytics to syphilitic reinfection; (2) the latent period between syphilitic and so-called para-syphilitic disease; (3) the distribution of the lesions in para-syphilitic disease; and (4) the resistance to anti-syphilitic treatment.

(1) Mott, as the result of a very large experience, observes that he has never seen or had his attention called to a case of general paralysis showing a primary sore or a secondary rash, notwithstanding the fact that such subjects are likely to be more than ordinarily exposed to infection. It is quite a natural assumption from such observations that the general paralytic is immune to syphilis, and such a conclusion is supported by the results of Krafft-Ebing's experiments, in which he failed to inoculate with the virus of a typical hard chancre nine cases of general paralysis which gave no history and showed no signs of syphilis. On the other hand, such observations are equally explicable on the assumption that the patient still harbours the organism of the disease; as Neisser has shown experimentally, if the spirochæte be still present, reinoculation is impossible; and the contention that in the absence of the spirochæte reinoculation could be effected is supported by the findings of

Neisser, Browning, and others, who, working on the experimental side of syphilis and trypanosomiasis, point out that immunity to these infections is short-lived.

(2) The occurrence of the latent period has been explained on the assumption of an acquired immunity ; but here the meaning of the term must be made clear. Immunity may be taken to mean either absence of symptoms (*immunitas non sterilisans* of Ehrlich), or insusceptibility to reinfection after the causal agent has been destroyed. The early and judicious administration of drugs may cause a rapid and complete disappearance of the symptoms in syphilis without killing the organisms, as may be seen by the reappearance of the disease after months or years ; and in the case of a mother who gives birth to a number of syphilitic children without herself showing any symptoms, it would be a grave assumption to suppose that she does not harbour the virus. The probability that the virus may remain latent for long periods is strengthened by knowledge of the fact that tubercle may lie dormant for years without manifesting any evidence of its presence, its activity being called into play by some supervening circumstance which disturbs the balance of accommodation between organism and host. Thus an attack of measles, trauma, or an attack of influenza are not the causes of tubercular infection ; they are the conditions which give rise to disturbed relations between the patient and the organism which may have already been present for some time. We have made similar observations in the case of cerebro-spinal fever, where a blow on the head would seem to have been the determining factor in the production of the acute manifestations of the disease. In a recent address Sir Hector Cameron has called attention to the occurrence of such latent periods extending from twenty to thirty years in cases of cancer ; he also emphasises the recrudescence of pyogenic disease in the abdomen after periods of well-being. It is a well-recognised fact that after typhoid fever the bacilli may persist in the body for years without giving rise to trouble, but that conditions may supervene at any time leading to an osteomyelitis or cholecystitis in which the typhoid bacillus is the only organism concerned. In the case of the latent period in syphilis occurring between the syphilitic and para-syphilitic symptoms, it is not too much to suppose that the *contagium vivum* is still present in a state of accommodation

with its host, but capable of giving rise to further disturbances on the occurrence of changes depending on external or internal agencies. With reference to the occurrence of inherited general paralysis, it is doubtful whether, accurately speaking, such a condition is possible. It is more reasonable to suppose that the so-called inherited general paralysis is the result of a syphilis acquired *in utero*. In many of the reported cases it is stated that there was evidence of congenital syphilis; and in those cases in which there was no evidence it is possible that the organism was present in a state of accommodation to its host so far as the ordinary manifestations of syphilis were concerned. In any case it is unlikely that the neuron-degeneration acquired in one generation as a result of syphilitic infection could be transmitted to the offspring in the absence of the pathogenic agent.

(3) Another point adduced in favour of para-syphilitic as opposed to the syphilitic origin of general paralysis has reference to the definite distribution of the lesion. It is maintained that a definite distribution of the lesion is inconsistent with a generalisation of the virus. As against this it might be said that there are many conditions in which a selective action of certain tissues for specific poisons is universally recognised. Why is it that drop-wrist occurs in lead poisoning? Why is it that tetanus toxin has a selective action as a stimulant, especially of the motor cells of the spinal cord? Why does diphtheria toxin produce vagus paralysis? To say that these elements have a specific affinity for a particular toxin is only to state the obvious. The cause of such affinity has not been explained, but it is an incontrovertible fact that generalisation of virus is not incompatible with localisation of lesion.

(4) It has been argued that the failure of response to anti-syphilitic treatment is evidence in favour of the view that general paralysis is not a true syphilitic disease. There is, it is said, an increased irritability and functional activity of the neurons whereby lipoid complexes are thrown off in increasing numbers. "The uselessness of anti-syphilitic remedies would thus be accounted for," and it is Mott's experience that they are positively injurious in true tabes and general paralysis, "because they lower the vital energy of a system which has over-immunised itself against the syphilitic virus." We have

already referred to the reasons whereby the general paralytic cannot be reinfected with the syphilitic virus, and the possibility must be borne in mind that the virus may have become serum-resistant or drug-resistant—a condition which is well known in experimental trypanosomiasis. There is also good reason for believing that such resistance may be more readily developed in one individual than in another (Browning). Again, it may be that the anti-syphilitic treatment is not effective in general paralysis on account of the site of the lesion. In investigating the pathology and treatment of cerebro-spinal fever, McKenzie and Martin pointed out that the immune substances elaborated in defence and present in the blood-serum could not be detected in the cerebro-spinal fluid. On the strength of this observation they recommended and tried with apparent success in a considerable number of instances the local introduction of an immune serum. In two severe cases the patients were successfully treated by the intra-spinal injection of their own serum. The general principle relative to cerebro-spinal fever has been substantiated by Flexner, Kolle, and others, and now the intra-spinal treatment of this disease is universally recognised as the most efficacious. It is not only in the case of bacterial anti-bodies that this condition with regard to the impermeability of the spinal membranes holds good; it has been found, for example, that in sleeping sickness potassium iodide does not pass into the cerebro-spinal fluid from the blood-stream. It is quite possible that in the case of general paralysis it is not the nature but the site of the lesion which is responsible for the failure of the anti-syphilitic treatment.

It has been the object of this review to indicate that the independence of syphilitic and para-syphilitic infections has not yet been established, and to suggest that on the one hand further search for the *contagium vivum* of syphilis in the body during the stage of general paralysis is necessary, and that on the other a line of treatment might be adopted on the supposition that the disease is the manifestation of an active and progressive process. On the advice of Dr. Andrew Balfour, of Khartoum, an attempt is to be made to treat sleeping sickness by the intra-spinal injection of the patient's own blood-serum after the organisms have been driven from the blood by the remedial agencies which are now employed. In consideration of

the hopeless character of general paralysis a trial of this same method might be recommended, and here also the principle of combined therapy should be borne in mind.

(¹) A paper read at the Scottish Divisional Meeting in Glasgow, March 19th, 1909.
—(²) We have pleasure in recording our indebtedness to the Carnegie Trustees for a grant in aid of the expenses connected with the experiments on which the observations in this communication are founded. We have also to thank Dr. Carswell and Dr. Marr for permission to examine cases in Duke Street Hospital and Woodilee Mental Hospital.

A Bacteriological Investigation into General Paralysis of the Insane, and a Table of Blood-counts. By
DAVID THOMSON, M.B., Formerly Assistant Medical
Officer at Horton Asylum, Epsom.

THIS research was carried on in the laboratory at Horton Asylum, and was directed to that vexed question as to whether the *Bacillus paralyticans* (which Dr. Ford Robertson has described) was the cause of general paralysis of the insane or not.

I was led into this research by the following incident : One morning, whilst making a *post-mortem* on a case of general paralysis which had died from an acute attack of erysipelas, I noticed that the spleen showed on section numerous little hæmorrhagic-like areas scattered throughout its substance. An agar tube was inoculated from the pulp, and next day there appeared a diffuse greyish-white growth which proved to be a bacillus, showing a chromatin point at each end. There were long and short forms present which produced strong acid formation and gas in glucose broth and was Gram-negative. A few streptococci were also present. A stained paraffin section of the same spleen showed short, thick, curved chains of these bacilli. A section of the kidney showed the same organisms, but they tended to remain separate rather than form short chains.

Thinking that this might possibly be the bacillus mentioned by Ford Robertson, I began to search for them in the spleen, liver, kidneys, lungs and brain of every case of general paralysis which died in the asylum.

Smear preparations were made, sections cut and stained, and

various media were inoculated with the pulp from the interior of these organs.

I also tried to draw blood and pulp from the spleens during life for examination, but was not successful, possibly because the spleens were too firm in consistence.

Later, I commenced searching the blood for the bacilli after death by drawing the blood aseptically from the right auricle, and incubating part of it in bouillon broth and part by itself, while the remainder was smeared on various media. Also in a few cases the blood was drawn aseptically from the median basilic vein before death and treated similarly.

The results are as follows :

General paralytics examined, 40 cases.

Controls from other classes of lunatics, 50 cases.

Blood before Death.

General paralysis of the insane (4 cases) : 2 cases showed bacilli ; 2 cases remained sterile. No controls were taken.

Blood after Death.

General paralysis of the insane (14 cases) : 4 cases showed bacilli ; 1 case showed staphylococci ; 4 cases showed diplococci ; 5 cases remained sterile.

Controls (37 cases) : 7 cases showed bacilli ; 3 cases showed staphylococci ; 7 cases showed diplococci ; 20 cases remained sterile.

The blood was in these cases drawn off at varying times after death, ranging from three to twenty-four hours, but the presence of organisms had little relation to the time. Often the blood drawn twenty-four hours after death was quite sterile, and *vice-versâ*, that drawn off soon after showed organisms.

Kidneys after Death.

General paralysis of the insane (6 cases) : 2 cases showed bacilli ; 4 cases were sterile.

Controls (3 cases) : All sterile.

Spleen after Death.

General paralysis of the insane (15 cases) : 7 cases showed bacilli ; 8 cases were sterile.

Controls (15 cases): 3 cases showed bacilli; 12 cases were sterile.

Liver after Death.

General paralysis of the insane (7 cases): 2 cases showed bacilli; 5 cases were sterile.

Controls (3 cases): All sterile.

Lungs after Death.

General paralysis of the insane (4 cases); 3 cases showed bacilli; 1 case showed pneumococci.

Controls (2 cases): 1 case showed bacilli; 1 case (section) showed no organisms.

Pia Mater.

General paralysis of the insane (3 cases): 1 case showed bacilli; 2 cases were sterile.

Control (1 case): Sterile.

Brain.

In 5 cases examination was made of sections from different parts of the brain:—Cortex, sides of lateral ventricles (frosted), floor of fourth ventricle, and cerebellum.

In only one case, was a small focus of bacilli found, *viz.*, in a piece of cortex from Broca's area.

Nature of the Bacilli Found in the Various Cases.

The bacilli in most of the cases resembled that which has been described, and seemed to belong to the intestinal group.

As a rule there were two forms distinguishable, *viz.*, long and short. Many showed chromatin points at the ends and in young cultures some were motile, the short forms being more actively motile than the long forms.

The following shows the general type of the majority. This was a bacillus cultivated from a small cyst in the choroid plexus in the third ventricle of the brain of a case of general paralysis of the insane, and also isolated from the spleen.

It showed long and short forms with metachrome ends and motile in young cultures :

(1) *Slope agar*.—At 37° C. growth began to appear in about eight hours after inoculation. In twenty-four hours there was a diffuse greyish-white translucent growth.

(2) *Gelatin*.—A whitish translucent-like growth, with slow liquefaction. No gas produced in a shake gelatin. In old gelatin cultures the bacilli assumed large involution forms with distinct metachrome ends.

(3) *Glycerin agar*.—Growth not so profuse as on ordinary agar ; showed a pale, thin, whitish film.

(4) *Blood-serum*.—Growths not so profuse as on agar.

(5) *Potato*.—Pale, dim, dirty, yellowish growth.

(6) *Milk*.—No coagulation.

(7) *Glucose broth*.—Acid and gas produced.

(8) *Lactose broth*.—No acid and no gas.

(9) *Lactose, saccharose, dulcin, salicin*.—No acid, no gas.

(10) *Capaldi proshanes I*.—*Nil*.

(11) *Capaldi proshanes II*.—*Nil*.

(12) *Neutral red*.—Some fluorescence.

(13) *Bile salt single*.—Acid, but no gas.

(14) *Cane sugar 1 per cent*.—Gas and slight acid.

(15) *Peptone water*.—Indol reaction.

(16) *Gram-negative*.

The bacilli isolated from the blood of two cases before death showed similar characteristics.

A guinea-pig inoculated intra-venously with the bacilli of one of these cultures died in twenty-four hours, and the same bacilli were found in the spleen of the animal. This was the only occasion in which inoculation was tried. (Not at the asylum.)

With regard to agglutination tests very little was done. Three cases were tried with more or less negative results, the serum from general paralysis showing no more power of agglutination than that from a normal individual. The dilutions of serum used were 1 in 50 and 1 in 100.

Such are the results, which, I am sorry to say, are so indefinite.

It will be noticed that organisms were found more often in the general paralytics than in the controls.

This presence or absence of organisms had no relation to

the age of the patients, but I was inclined to believe that it had some relation to the vital condition of the patient before death. The general paralytic cases had been moribund for a considerable period before death, and I observed that among the controls nearly all those that had died from the *status epilepticus* which had continued for two or three days showed organisms.

It is just possible that these bacilli which appear to belong to the intestinal group may have invaded the blood during the moribund state of the patient, though in two cases they were observed in the blood long before death.

It is worthy of note that the patients in the third stage of general paralysis were as a rule constipated to an extreme degree. This may have been due to the fact that they were being fed almost entirely on milk.

The temperature of the bed-ridden third stage cases was as a rule subnormal, with occasional sharp rises up to 99° or 100° F., followed by a sudden fall. These variations in temperature took place at varying intervals of several days.

The Blood in General Paralysis.

I now give in tabulated form thirty blood-counts of twenty-six cases of general paralysis of the insane, all more or less well-advanced cases.

Name of patient.	Leucocytes per c.mm.	Red blood-corpuscles per c.mm.	Percentage of hæmoglobin.
H. A—	9,500	4,300,000	85
C. H—	8,400	4,400,000	90
R. C—	6,800	4,600,000	95
H. B—	5,600	5,400,000	80
T. C—	10,000	4,800,000	85
A. T—	6,200	4,900,000	100
R. G—	9,500	5,600,000	95
W. S—	8,100	4,270,000	85
R. J. B—	10,000	4,750,000	90
G. C. B—	12,000	4,900,000	85
G. J—	17,800	4,275,000	90
A. H. M—	7,200	5,000,000	90
Same during seizure	10,000	4,000,000	85

Name of patient.	Leucocytes per c.mm.	Red blood-corpuscles per c.mm.	Percentage of hæmoglobin.
Later after slight seizure	7,000	4,000,000	85
T. P—	6,400	5,200,000	90
Same later	9,600	5,000,000	90
D. M—	3,400	2,750,000	75
W. C—	11,700	4,800,000	90
S. C—	26,000	5,400,000	85
C. T. W—	7,000	4,800,000	85
S. S—	8,700	5,500,000	95
S—	11,900	4,300,000	85
P. D—	7,800	5,000,000	85
B—	8,700	5,300,000	85
G. C—	10,000	5,400,000	85
L. S—	11,800	5,300,000	90
E. H—	9,300	4,700,000	80
E. W—	6,000	4,700,000	80
H. J. C—	7,000	4,250,000	85
Same later	7,200	4,000,000	85

Here the average number of leucocytes per c.mm. is 9353, which is somewhat higher than the average number found in the blood of healthy individuals, and the percentage of polymorphs was fairly high.

Syphilis and General Paralysis.

With regard to syphilis, evidence of that disease was obtained in over 60 *per cent.* of the cases, there being direct evidence from scars in the groins or on the glans penis. The remaining percentage had practically all exposed themselves to infection, and the absence of physical marks was no proof that they had not contracted that disease.

Before concluding I wish to express my thanks to Dr. Lord, the Medical Superintendent, for his valuable supervision, and also to Mr. Edward S. Dean, who assisted me greatly in this research.

Remarks on Hospital (i.e., Asylum) Treatment of the Acutely Insane. By MERVYN A. ARCHDALE, M.B., Medical Superintendent of the East Riding of Yorkshire Asylum, Beverley.⁽¹⁾

LET me first explain or define the terms used in the title of this paper. By "hospital treatment" I mean treatment in any institution where patients have to be treated in numbers together, and where it is possible to have efficient nursing. My remarks, however, will have special reference to county and borough asylums as they exist at present. By the "acutely insane" I mean those patients who are suffering from insanity which has begun at a recent date, and which we may hope to relieve.

I propose to remind you of certain important factors in the ætiology of acute insanity, from these ætiological factors to deduce principles or aims of treatment, and then to indicate certain methods by which we may attempt to carry out those principles in practice.

Ætiological factors in the production of insanity and disordered brain function may be arranged according to their effect on the brain structures under five heads.

(1) *Lower Power of Natural Resistance to Unfavourable Conditions.*

This may be inherited or it may be the consequence of previous injury or disease, and we postulate with it some permanent structural deformity or deficiency. This mental instability or predisposition to mental disorder we find in a large proportion of asylum patients, in some cases being so marked that it necessitates a permanent detention.

(2) *Physical Injury.*

This may be produced by—

- (a) Action of the direct rays of the sun ;
- (b) Powerful electric discharges ;
- (c) Concussion and other mechanical shocks ;
- (d) Pressure by tumours, hæmorrhages, etc.

The first three varieties of physical injury applied to the brain are liable to cause much permanent damage, and accordingly suggest a bad prognosis. In the treatment of such cases the initial period of rest requires to be unusually prolonged so that all destroyed tissue, hæmorrhage and toxic material may be cleared away before the cells attempt to work, and the subsequent process of education or training of function requires to be very gradual. These ætiological factors, however, being past and gone, do not have much effect on the principles of treatment. If there is pressure, operative interference or other special treatment is necessary to remove it. Pressure may injure the brain cells not only directly, but also in an indirect manner, by altering the local circulation of blood and lymph, and thus producing deficient nourishment and toxic action.

(3) *Strain.*

Strain, overwork, or exhaustion of the brain cells may be produced in various ways, as by—

- (a) Severe or frequently repeated grief, fright, or other mental shocks ;
- (b) Long-continued apprehension, worry, or other depressing emotions ;
- (c) Mental overwork, or insufficient rest and sleep.

Under "strain" we may also include such psychic causes as a forced or unbalanced education, and any unhealthy mental environment of long duration. In many cases the psychic elements constituting the strain have already for the most part been removed when the patient was brought away to the asylum, and therefore do not require much attention in treatment. In other cases, however, special psychic treatment is necessary with the object of removing any psychic causes which still remain ; and in some cases, indeed, this is the only special treatment required.

The mere fact of strain implies a need for rest. But strain has more commonly produced the mental disorder or insanity by its evil psychic influence on various bodily organs, and by the consequent production of metabolic and bacterial toxins. It is, therefore, these last more immediate causes which chiefly require attention in treatment, at any rate in the more acute stages of the disorder and when the patient is first admitted to an asylum.

(4) *Deficient Nourishment.*

This may be local or general in origin, that is, it may be the result of changes in the vessels or changes in the plasma. Examples of local causes are cerebral arterio-sclerosis, other forms of cerebral arteritis, cerebral thrombosis, vaso-motor disturbances, and heart disease. Examples of general causes are severe or frequent hæmorrhage or discharge, anæmia, all diseases of blood-forming organs, starvation, disturbances of digestion, and all wasting diseases.

(5) *Chemical Injury.*

This occurs by means of the plasma. It plays some part in the causation of the symptoms in probably every case of acute insanity, and therefore from the point of view of treatment its importance can hardly be exaggerated. The poisons or toxins which may be responsible for disordered brain function are very numerous. They may be divided into three classes :

(a) Organic poisons the result of metabolic or nutritional irregularities ;

(b) Organic poisons produced by parasites ;

(c) Organic and inorganic poisons introduced into the body from without.

(a) A more or less toxic state of the plasma is produced in the following examples of irregular metabolism and nutrition : myxædema, Graves' disease, diabetes, disorders of liver, pancreas and other digestive organs, starvation, heart failure through its influence on the liver, etc., Addison's disease, gouty diathesis, rheumatic diathesis, gout, uræmia, conditions of changed metabolism occurring in the reproductive organs at the periods of puberty, childbirth, climacteric, etc., dyspepsia, and constipation. It appears probable that in the course of digestion of certain articles of food, such as meat, eggs, shellfish, etc., certain products are formed which are toxic to some people, but which in normal individuals are counteracted by certain internal secretions, such, for example, as that manufactured in the thyroid gland. At any rate, we know many people become ill and suffer from such symptoms as headache, neuralgia, nausea, urticaria, mental clouding, lethargy, depression, irritability or even acute insanity if they eat much of

certain foods or if they become constipated. In fact it seems possible that in some cases the hereditary element lies in a defect rather of a particular gland or other organ than of the central nervous system.

In some cases the toxins responsible for the disturbed brain function are the ordinary products of normal metabolism, which have accumulated in the plasma owing to deficient excretion (as in Bright's disease), or to some interference with the local circulation of lymph (as in general paralysis).

There is a close relation between disturbed metabolism and bacterial invasion, each tending to result in the other, and in many cases it is impossible to estimate the part played by these two agents in the production of a toxic state of the plasma. In Graves' disease, for example, it seems likely that the excess of thyroid secretion predisposes the body to certain bacterial invasions, thus explaining the recurrent attacks of insanity sometimes associated with this disease.

(b) Conditions in which parasites produce a toxic state of the plasma include the following : All infectious diseases, all invasions of the body by fungi, moulds, amœbæ, worms, etc., all forms of septic inflammation, and all catarrhal states of mucous membranes and hollow organs. It is probably not uncommon for microbes to be flourishing on a surface or in tissues and producing toxins without setting up any prominent local signs.

It is highly probable that certain well-defined states of mental disorder are primarily dependent on alterations of immunity, much as invasion by Fraenkel's pneumococcus is so dependent. The pneumococcus is not an uncommon inhabitant of the mouths of healthy people, but it is only when the body resistance has been lowered by exhaustion, impure air, etc., that the individual gets pneumonia. In a similar way it seems likely that some common microbe, to which the majority of people are immune, is the essential cause of certain types of insanity, particularly those known as recurrent mania, recurrent melancholia, *folie circulaire*, and manic-depressive disease. In fact, in some cases of insanity with marked heredity, we can imagine the inherited fault to lie in this obscure quality of the body known as immunity rather than in the cerebral structures or any particular gland.

(c) The following are examples of extraneous poisons which

may help to set up mental disorder : Alcohol, morphine, hyoscine, cocaine, ether, chloroform, salicylates, quinine, and practically every drug of any potency. Some of these quickly set up a temporary mental disorder or intoxication not termed insanity ; and if, in these cases, more lasting mental disorder is set up and symptoms exist long after the narcotic has been excreted, we are justified in attributing the remaining symptoms to abnormal metabolism and bacterial invasion.

For example, this hypothesis would explain the variety in the types of cases of alcoholic insanity by infections with different microbes or by disordered metabolism in different organs. The acute symptoms arising from sudden deprivation of a habitual narcotic—opium, for example—we may attribute to general disturbance of metabolism brought about by the sudden change in the composition of the plasma.

After a consideration of the above ætiological factors, the following conclusions suggest themselves :

(1) A large proportion of our cases have a low resistance power, the result of heredity or previous injury or disease. Such cases are particularly apt to recur, and their treatment, both curative and preventive, requires to be largely psychic.

(2) Physical injury has a bad effect on the results of treatment. Such cases are best treated by prolonged rest followed by very carefully graduated exercise.

(3) Though the main items of mental strain are removed by bringing the patient away to the asylum, there are still left certain suggestions and memories which must have an injurious effect. These depressing suggestions and memories should not be renewed, as by visits and letters, but should be counteracted by supplying suggestions of rest, hope and cure.

(4) Any cause of deficient nourishment, local or general, should be treated. Food should be in the most assimilable form.

(5) In practically all cases of recent mental disorder metabolism is much deranged. To enable normal metabolic activities to be regained, all organs should for a time be rested as thoroughly as possible, and therefore food elements should be of the simplest. There is an excess of waste products in the plasma to be excreted. To prevent permanent damage to the brain cells the toxins in the plasma should be diluted as freely and quickly as possible. The excretory actions of the skin and lungs are best stimulated by fresh air.

(6) The existence in the plasma of toxins which have been produced by bacteria or other parasites is the immediate cause of the mental disorder in many cases. In practically all cases of mental disorder of recent origin bacteria have a greater or less share in producing the symptoms, flourishing on the mucous membranes and in the tissues.

We require to prevent the entrance into the body of any more parasitic bacteria. We require to assist the body to destroy the parasites already there. Oxygen of fresh air is a most natural and effective bactericide.

(7) A case of acute insanity should be looked upon as a variety of vicious circle, to be attacked from all points. The vicious circle is somewhat as follows :

Psychic strain, disorder of metabolism, metabolic toxæmia, bacterial invasion, bacterial toxæmia, psychic disorder, psychic strain ; or disorder of metabolism, metabolic toxæmia, bacterial invasion, bacterial toxæmia, psychic disorder, psychic strain, metabolic disorder ; or bacterial invasion, bacterial toxæmia, psychic disorder, psychic strain, disorder of metabolism, metabolic toxæmia, bacterial invasion.

(8) The stage of convalescence may be said to be beginning when the mental symptoms have lost their debilitating effects and when the general bodily condition approximates to the normal. This stage of convalescence should be treated by gradually increasing exercise in a suitable mental atmosphere.

The above conclusions give us the following five principles or aims of treatment : during the stage of active disorder and destructive process : (1) rest the whole body as thoroughly as possible, (2) keep the body well nourished, (3) eradicate parasites, (4) assist the excretion of toxins, and during the stage of convalescence, (5) exercise all functions gradually.

I will now mention certain matters of nursing and medical treatment, by means of which we may attempt to carry out these principles, and I will arrange my remarks under twelve heads.

(1) *Confinement to Bed in the Fresh Air.*

The first principle of treatment is to give rest, as complete as possible—rest, that is, not only to the nervous system, but also to every organ of the body. The only way we can attempt to do this is by keeping the patient in bed on the

simplest diet. The mere fact of being in bed is a strong suggestion of rest and quiet. Of course the cases which come to asylums are not usually early cases ; they have been ill at least some weeks, and the mental symptoms have often become very pronounced and troublesome. It may therefore be difficult to keep a patient in bed at first, but in such a case a sedative for a day or two will soon establish the habit of lying in bed, and very rarely, indeed, are the symptoms quite so active and troublesome after a few days' thorough rest.

Bed treatment has been in much disfavour with asylum physicians, and for very good reasons. When this treatment was tried the patients were kept in a stuffy dormitory or in still stuffier single rooms. In consequence their skins were unable to get rid of their excretions and presented an unhealthy appearance, and by the patients breathing their own air over and over again they only helped the growth of microbes and hindered the exhalation of waste matter. I have never yet seen a single room which was large enough or sufficiently well ventilated when the door was closed to accommodate a case of acute insanity. Such patients were also given a diet as complex and full as they would take, including such things as tea, coffee, meat, and alcohol. The consequence was, unnecessary work was given to the organs, healthy metabolism was interfered with, the plasma received an addition of toxic metabolic products, and the brain cells were irritated and damaged more than ever. Physicians, of course, found that by getting patients up and keeping them in the fresh air they often did very much better, and they certainly had a better opportunity of using up the food given to them. But if they had kept them in bed on simple diet as well as in the fresh air, they would, I am confident, have done still better. There are some cases of recurrent insanity, however, which appear to do fairly well under almost any kind of treatment, having a tendency to run a definite course. These cases I attribute chiefly to bacterial invasion.

There is an idea I have found prevalent in asylums, encouraged no doubt by official reports, and that is, that it is a disgrace to have many patients in bed. I hope this idea will soon vanish, because it is, I am sure, very much better to have patients in bed unnecessarily than to have patients up who ought to be in bed. When the stage of convalescence arrives,

in which the habit of bed-lying should be broken and the brain should be stimulated to action, this is easily accomplished by moving the patient to a different ward.

This leads us to the question of what is the best way of keeping our patients in the fresh air when confined to bed. I would say that to a ward in which this treatment is carried out the following conditions should apply:

(a) It should be in the form of a verandah facing south. This verandah, if arranged for one row of beds, I would have 14 or 16 feet deep, if for two rows 22 or 24 feet.

(b) The roof should be ventilated and should contain some glass, so as to admit plenty of light.

(c) There should be no openings at the back of the verandah liable to set up strong draughts.

(d) There should be plenty of partitions or screens to isolate the more excitable and noisy patients.

(e) On the open side of the verandah should be a low railing sufficient to hide the beds and their occupants from the view of people outside.

(f) Some means of temporary protection for the open side should be devised for use during very stormy weather.

(g) There should be some form of heating, chiefly for the purpose of drying the air when unduly moist, the temperature in winter being kept over 40° or 45° F.

(h) For new patients who feel the cold, and for those who suffer from cold extremities, the nurses should rely on extra blankets, bed socks, hot bottles, etc.

(i) There should be plenty of commodes provided, and these should be protected and partially hidden by screens.

(j) A few yards away from the verandah there should be an unclimbable railing, which can be hidden by shrubs, etc. This is to prevent harm to a very impulsive patient, if he succeeded in rushing away before a nurse could prevent him.

(k) There should always be present at least two nurses. This is in case of a patient having a suicidal or other impulse, or being resistive or violent in conduct, and also for the efficient observation of a number of cases varying much in their symptoms.

(l) The night nurse's chair should be situated in the warmest and most protected place, and raised in such a manner that she can have a proper view of all her patients.

(*m*) The ward should be confined as much as possible to patients in bed and on simple diet. This is to simplify the nursing. Patients who are up have more scope for mischief, and are apt to interfere with the others.

(*n*) The ward should contain as few patients as a reasonable economy will allow, preferably not more than twenty, certainly not more than thirty. When in the case of every patient the urine has to be measured, the motions kept each day, the temperature, pulse-rate, and respiration-rate to be recorded at least twice a day, the weight to be noted twice a week, each passing of urine and movement of the bowels to be recorded, his mouth to be cleaned once or twice a day, and special treatment by diet, medicine, baths, etc., to be administered, twenty patients are, I feel sure, quite enough for one nurse to properly supervise.

Some asylums have had verandahs provided for treating tuberculous cases, but very few so far use them for treating the acutely insane. However, we can do a great deal in this direction by adapting present wards. I have recently here on the women's side prepared a ward on these lines. The ward is on the ground floor, has six windows facing south, six facing north, and a row of single rooms facing west. The sashes of the six windows on the south side have been entirely removed, and the ventilation of the single rooms has been improved, the windows on the north side being kept closed, except in very warm weather. The beds are arranged in two rows with their heads to the north, and are at a sufficient distance from the south windows to escape any rain that may come in. There is nothing to prevent patients climbing out through the windows, except that there is always a nurse present; and if by any chance a patient happened to rush impulsively out through a window before a nurse could prevent her, she would only get into the airing court and could be quickly brought back. Some of the patients are allowed up during the afternoon, but with the exception of three who are attached to the ward as helpers the rest are entirely confined to bed. No separate accommodation has yet been provided in this asylum for tuberculous cases, and I therefore use this ward for both tuberculous cases and the acutely insane.

Another way in which we can give fresh air and rest treatment to some extent is by having the beds wheeled out into

the open during the day. This is easy to arrange in fine weather, and if there are shelters the beds can be wheeled under them during a shower.

(2) *Isolation and Observation.*

We can give thorough rest to the nervous system only by reducing to a minimum the stimulation of the sense organs. A certain amount of sense stimulation is necessary sometimes to prevent harmful auto-suggestion and the development of central hallucinations. This sense stimulation, however, should be as commonplace as possible, so as not to excite in any way, and is sufficiently supplied as a rule by the visits of the physician and the attention of the nurses. Music I think may be of use for this purpose, particularly quiet dreamy music from a gramophone or other automatic music machine. A certain amount of isolation is an important part of the treatment of all acute cases of mental disorder, and it is almost impossible to obtain it in an asylum when the patient is not confined to bed. There is no doubt that melancholic and other patients are often greatly distressed by what they see and hear other patients do, and such associations must tend to retard recovery. With regard to excited patients the teaching has been to let them roam about and "turn their superfluous energy into useful or normal channels." This appears good advice, and many cases do well under this treatment. But it is in recent recoverable cases, I feel sure, an error, and I believe many of our cases of chronic mania and dementia are the result of it. It has been quite a usual thing to see recently admitted patients led round the airing court, gesticulating, dancing, and shouting at everyone they saw, and working themselves up at intervals into states of fury. This means for the patient great expense of nervous energy, rapid katabolism all over the body, particularly in the brain and nervous system, greater accumulation of toxic waste products in the plasma, including that which bathes the brain cells, and more damage to the brain cells and their connections. Sufficient isolation for most cases can be provided by the use of screens, a few being large and fixed in position and others small and movable. Patients who have a habit of talking to themselves and answering other voices not only do not get sufficient rest themselves but are a great nuisance to

other patients in the ward. They should be more effectually isolated, at least until this habit is broken.

Actively suicidal patients ought of course to be placed near a nurse and in full view. However, under rest and fresh air treatment it is usual for the suicidal feelings quickly to diminish in intensity.

(3) *Psychic Treatment and Suggestion Therapeutics.*

Psychic mental or moral treatment, whether done consciously or not, is part of the *modus operandi* of every successful physician, and this treatment is specially necessary in mental maladies. The effects are most rapid or most noticeable in minor mental affections and the so-called psycho-neuroses, as neurasthenia and hysteria. It is an important part of the ordinary asylum treatment with its discipline and its occupations and amusements. Psychic treatment consists of influencing conduct and bodily condition by ideas, and making these ideas part of the subconscious self. The necessary ideas may be inculcated by a process of persuasion or by merely suggesting them under suitable conditions. Though all psychic treatment may be said to be suggestion treatment, it is better to distinguish between persuasion and "suggestion" in the narrower sense of the hypnotists. We ought in all cases to ignore the patient's faulty ideas and attempt to build up in his reasoning mind a self-reliance and a moral conscience. In some cases the mere affirmation or suggestion, either direct or indirect, of suitable ideas is quite effective. Ideas built up by processes of reasoning tend, however, to be more permanent. The effects of suggestion may be greatly heightened in some cases by the various methods of fatiguing the senses. The term "hypnotism" is by many people confined to this suggestion treatment when aided by sense fatigue.

The mental atmosphere of a ward arranged on the lines I have indicated suggests to the patients that something is being done to cure them, it inspires a confidence in both physician and nurses, and suggests a time of rest and relief from care and worry. Everything should be done to promote quiet: nurses should wear rubber heels, no visits of people from other wards should be allowed, and if a patient becomes noisy and a source of annoyance it should be reported at once, when he

may be screened off or placed in a single room, or perhaps a few well-chosen words from the physician will be sufficient to quieten him.

It is sometimes necessary to make special attempts at supplying proper suggestions, and occasionally this will be aided by hypnotism. I have occasionally used hypnotism for cases of melancholia, with good effect. I can imagine that a gramophone set to go for an hour, with various suggestions in the physician's voice of sleep, rest, hope, cure, etc., might be of use, but I have not had an opportunity of trying it. A continued iteration in multitudinous form of the one idea of sleep might perhaps in many cases have quite as good an effect as a dose of paraldehyde.

When such mental symptoms as great excitement or confusion exist, psychic treatment can have little or no effect; but as consciousness gradually clears the results of suggestion should receive the careful attention of the physician.

While a patient is actively suicidal it is, of course, necessary to adopt means of keeping him under continuous observation. Unfortunately this constant watching is felt by the patient, and is a great source of irritation and evil suggestion. The ideal to aim at is to have the patient watched without his noticing it. This continuous observation is certainly done best and with the least obtrusiveness when the patient is in bed. There is no doubt that continuous observation is greatly overdone in some asylums and does the patients a great deal of harm.

(4) *Sepsis in the Mouth and other parts.*

Nine out of ten cases admitted to county and borough asylums have a foul condition of mouth. Of course, carious teeth are nearly as common in the sane of the same class of people, and I do not say that every one of our cases whom we find with a septic state of the mouth owes his attack of insanity primarily to that sepsis. But I do say that oral sepsis greatly aggravates the mental symptoms and calls for urgent treatment, and in some cases it has been the most important cause of the insanity. I think a good procedure is at once to extract all carious teeth and stumps, and to direct a nurse specially set apart for this work to clean the mouth twice a day, using borax

and glycerine or some alkaline solution, swabs of wool, and short lengths of silk ; and if there is pyorrhœa alveolaris I also apply tincture of iodine to the teeth occasionally.

The other more common sites for catarrhal and septic conditions are the naso-pharynx, the ears, the colon and rectum, other parts of the alimentary tract, the lungs, the uterus, the urethra, the bladder, and the kidneys.

For catarrh in the naso-pharynx, if severe, I am in the habit of douching with solution of sod. chlor. or sod. bicarb., with the addition sometimes of a little cyllin ; in some of the milder cases I spray the nose with sanitas oil from a vaporiser, and when the condition is chronic I add iodine to the oil in the proportion of 1 to 5000. The danger of infecting the middle ear requires to be remembered, and we sometimes come across a case of sinus suppuration requiring operation.

Chronic otorrhœa and mastoid disease may be a source of septic absorption, and ought to be properly treated at once.

Various catarrhal and septic conditions of the colon and rectum are not uncommon, but the only treatment necessary, as a rule, is milk diet and saline injections. For more severe inflammation of the colon washing with 4 to 6 pints of solution of hydrarg. perchlor. (1 in 6000) or argent. nit. (20 or 30 grs. to the pint) may be required, and of course fissures, abscesses, etc., require their appropriate treatment.

In connection with constipation there is an antiseptic precaution worth mentioning. When an oil or other enema is being given to a case of very severe constipation there are apt to be some bacterial toxins set free and absorbed. This result may be to some extent counteracted or prevented by adding to the enema some antiseptic or volatile oil, such as ten drops of oil of eucalyptus.

In treating catarrhal and septic conditions of the stomach and small intestines, milk diet and regulation of the bowels often effect an early cure, though antiseptics are of service. When there is fermentation or a catarrhal state of the stomach salol, gr. v to x three times a day, or one drop of liq. hydrarg. perchlor. every hour for a few days, or an acid mixture after meals, may be given, but usually copious water drinking with a slight alkali before meals will very quickly bring about a cure. The intestinal antiseptic on which I rely is calomel. I give this to many of my cases during the period of active

disorder, usually one grain once or twice a week. When a case first comes under treatment I often begin by giving one sixth of a grain of calomel every hour for six or twelve hours, or until the bowels are moved. To some cases—those with high blood-pressure or whose motions tend to remain offensive in character—I give one sixth of a grain three times a day for some weeks.

For abnormal bacterial action in the alimentary canal treatment by giving buttermilk or lactic acid bacilli is being strongly recommended at the present time. I have had no experience of this treatment, however, though I intend to try it in future cases of persistent intestinal auto-intoxication.

The lungs may be the seat of various bacterial infections, which are best kept in check by intestinal inhalations or by the internal administration of such antiseptics as terebene and creasote. Septic absorption from the uterus is common in puerperal cases, and it may sometimes exist without giving any very distinct evidence. If there is any reason for suspecting a septic condition the cervix should be dilated sufficiently to admit a finger, the interior of the uterus should be explored and any retained products removed. In some more chronic cases a blunt curette may be used, but it is safer not to use a curette in these cases lest the infection be spread into uterine sinuses. The interior of the uterus should be well doused with solution of hydrarg. perchlor. (1 in 1000), followed by saline solution; it should then be dried with swabs, and finally the surface touched all round with iodised phenol. No packing is necessary.

Stricture of the urethra may set up septic absorption both at the site of an ulcer behind the stricture and in the bladder from consequent cystitis.

Tubercular and septic conditions of the bladder and kidneys are occasional sources of septic absorption. Cystitis with alkaline urine is, as a rule, quickly cured by the administration of hexamethylene tetramine 10 grs. three times a day, but some bacilli are very resistant to this drug, and it may be necessary to wash out the bladder with some special antiseptic. The organisms found in these latter cases are most commonly colon bacilli, gonococci, and tubercle bacilli. For bladder irrigation probably the most useful antiseptic is silver nitrate, beginning at a strength of two grains to the pint and gradually

increasing up to ten grains to the pint. Gonorrhœal cystitis is sometimes very resistant to treatment, and may require some special method of irrigation such as Janet's. Tubercular cases do not require irrigation, of course, unless complicated by other organisms. Occasionally a case of cystitis will refuse to improve until an operation is performed and the bladder drained. We should not forget that a chronic case of cystitis may be due to the typhoid bacillus even when it is years since the attack of fever. Probably the commonest site, however, for a local typhoid infection lasting years after the fever is the gall-bladder. These are the "carriers" who probably explain many of the outbreaks of typhoid in asylums.

Dr. Suckling, of Birmingham, has drawn attention to floating kidney as a cause of insanity. He appears to be of opinion that the frequent slight kinking of the ureter which occurs in these cases increases the pressure of the urine in the kidneys, predisposes the kidneys to bacterial invasion and causes absorption of any toxins in the urine. He appears to think these cases common. I cannot say that this has been my experience, but it seems to me not unlikely that some of those patients who improve in bed but relapse again when they have been got up a few days or weeks really suffer from the condition of undue mobility of the kidney.

Just now two special methods of treating septic conditions are being lauded, and they promise to be useful in asylum practice—Bier's hyperæmic treatment, and the vaccine treatment. I have had no experience of these treatments, however, and only mention them as being well worth our study. There is one point in connection with sepsis I wish particularly to emphasise, and that is, that we can certainly have bacterial invasion of a part and the absorption of toxins without any noticeable local signs. For example, we may have bacteriuria and not know it until we examine the urine for bacteria, the resulting cystitis being so slight as to escape notice.

(5) *Disturbed Metabolism.*

Most states of disturbed metabolism subside on giving rest to the organs in the way I have indicated, but there are certain special disorders of metabolism which require special treatment. Some of these disorders are very imperfectly

understood and their treatment is accordingly unsatisfactory. Perhaps the commonest of these is Graves' disease, which in slighter forms is a relatively common disease in asylums. The treatment of Graves' disease which now promises the best result is that known as the antitoxic treatment. There are several preparations made by E. Merck and Parke Davis & Co., some being made from the serum of thyroidectomised animals, and others from the milk of such animals.

(6) *Antiseptics and Sanitation.*

Seeing that parasitic germs play so large a part in the diseases we have to treat, the use of antiseptics either to the surroundings or to the body itself is a subject of the greatest interest. We may consider every new case a store of evil germs, and therefore, even if the reception ward is an open-air ward, the walls, floors, and other surfaces require frequent attention to keep down the germs. At least every month the walls, etc., should be washed with soap and water and some antiseptic, or they may be sprayed or washed with an antiseptic alone. The best antiseptics or disinfectants for this purpose are those which liberate oxygen, as chlorinated lime ($1\frac{1}{2}$ oz. to the gallon) and sanitas. Any decorations of the ward should be of the simplest character, and nothing should be used which may harbour dust or be difficult to wash. The nurses should wear washable outside clothing, the women always wearing washable dresses, and the men, while in the hospital wards, wearing white overalls. I have already dealt with internal antiseptics under the heading of "Sepsis."

(7) *Regulation of the Bowels.*

This is an extremely important part of treatment. For some cases all that is necessary is to give a grain of calomel once or twice a week at night followed by a dose of mist. sennæ co. next morning. During the stage of acute disorder I aim at the patient having one or two motions of a soft consistence in the twenty-four hours. If the calomel twice a week is not sufficient to produce this, I usually prescribe an alkaline saline aperient containing some intestinal stimulant such as cascara, senna, or nux vomica. The mixture I am giving to

many of my cases at present contains mag. carb., mag. sulph., cascara, and peppermint. This is given with water half an hour before a meal three times, twice, or once a day, according to need. Later I substitute for this a dose of liquid extract of malt with cascara.

Because one is very liable to be misled by reports on the state of the bowels, and because it is most important to have a full knowledge of the condition of the alimentary canal, I think the physician should himself see the motions daily of every one of the acute cases. It is a simple enough matter for the nurse to keep all the stools, so that the physician may inspect them altogether at a fixed time in the day, making notes in each case of the conditions found. This does not take up much time and gives very valuable information.

Sometimes in a case of very severe constipation an initial treatment with a petroleum or vaseline preparation is found beneficial. This lubricates the intestines, prevents to some extent absorption of toxins, and favours efficient peristalsis. The other well-known modes of treating habitual constipation may occasionally be required during the stage of convalescence when ordinary diet is being given.

(8) *Water Drinking and Saline Injections.*

One of the aims of treatment is to aid the excretion of toxins. Included in this is another aim—to dilute the toxins in the plasma as freely and quickly as possible. Thus there is an urgent call to introduce into the blood an abundance of water. Treatment by saline rectal injections is used by many physicians now, and the improvement in some cases is most marked. This is no doubt in great part due to the process of washing out the toxins from the plasma, but I think in some cases it may also be due to some beneficial effect on the mucous membrane of the colon, which inhibits the growth of microbes there. The washing-out process—diluting the plasma and assisting the excretion of toxins—can be done more easily by giving water by the mouth, and I give acute cases at least ten ounces of water before each meal.

(9) *Milk or Simple Diet.*

If we accept it as a fact that in a case of mental disorder there is more or less disturbance of the digestive functions and

that the alimentary tract is particularly prone to fermentations and microbic infections, it follows that we should give a diet of the simplest character which will contain sufficient nutriment and at the same time give as little work as possible to the digestive organs. Therefore at the beginning of treatment I give nothing but milk, sometimes much diluted, and later I gradually add bread and butter, farinaceous foods, grated cheese, and eggs, but as a rule so long as the patient is in the reception ward I do not allow meat, meat extract, tea, or coffee.

During convalescence the diet should be changed gradually until it approximates to what the patient will have when discharged.

(10) *Clinical Observations.*

During the acute stage of the disorder the amount and specific gravity of the urine should be recorded each day, and the nurse should put out samples for inspection and analysis once a week. We may note at intervals the twenty-four hours' excretion of total solids, of urea, of chlorides, of phosphates and of purin bodies. All these observations give us information about metabolism, and an absence of chlorides strongly suggests particular microbic infections. The weight during the acute stage should be recorded twice a week, being our chief indicator as to the amount of diet and sedatives to give. I here show you a copy of the clinical chart I am now using.

You will notice that the space for diet is very narrow. This is because I keep a list of the diets I prescribe, and specify them on the chart by their numbers as marked on the list. The column marked "Symptoms" is used for such records as those of blood-pressure and leucocyte counts.

(11) *Sedatives and Hypnotics.*

Since in a case of acute insanity we believe the plasma to be already loaded with toxins, we should avoid adding more in the shape of the active principles of narcotic drugs. But sometimes the symptoms have of themselves a markedly injurious effect on the general condition, forming, indeed, part of a vicious circle, and in such cases symptomatic treatment is thoroughly justified. In fact in some cases of acute insanity sedatives have

Name and case-book reference

emotions, and to rest the nervous system. If these objects can be attained without the use of drugs so much the better.

In giving sedatives we should be guided both by the mental symptoms and by the weight. A sedative will often sustain the weight better than an addition to the diet, and may be useful in any variety of emotional excitement, whether the patient is exalted or depressed.

The sedatives I use chiefly are sulphonal, a mixture of chloral and potassium bromide, potassium bromide alone, and hyoscine. If I want a hypnotic action alone I give paraldehyde or a mixture of this with potassium bromide.

Sulphonal is a very useful sedative, the quietening effect lasting some days. I prefer to give it in a single dose, 30 grs. for example, in the afternoon rather than in divided doses during the day. In some cases I give 40 grs. for a first dose, or I give 30 grs. twice during the first day. It should not be given continuously for more than a few days, and its use should be confined to patients in bed. The ill-effects—ataxia, hæmaturia and anæmia—are chiefly seen in patients who are going about and using their muscles.

A mixture of chloral and bromide makes a good sedative, useful particularly for its early effect. Potassium bromide is very useful in a variety of cases, but it is not uncommon for it to set up dyspepsia and loss of weight. The smaller doses of 10 to 15 grs., three times a day, I often find a great help. I have had no experience of the substitution of sodium bromide for the common salt taken in food—a method of giving bromide found very effective in epilepsy.

For a case of very acute excitement with excessive motor activity and violence, a hypodermic of $\frac{1}{200}$ to $\frac{1}{75}$ gr. of hyoscine may be given at once. This will relieve the most pressing symptom and give time for other treatment to take effect. It is, however, a dangerous depressant, and should only be used when urgently needed.

Under the rest and fresh-air treatment, in most cases sedatives can be dispensed with in a very short time, and the more perfectly this treatment is carried out the less need is there for the use of sedatives.

Paraldehyde I find very useful as a pure hypnotic, the usual dose being two drachms, with at least four to six ounces of water and a little syrup. It should not be given for many nights in succession, and its effect is much increased by the addition of 30 grs. of potassium bromide.

(12) *Exercise.*

One of the most important points for the physician to decide in treating a mental case is when to terminate the rest treatment and when to prescribe exercise, that is, when may the case be said to be beginning to convalesce. Of course, in a recovering or improving case there comes a time when further rest will tend to retard recovery, and when exercise will hasten it. In most cases, however, I feel sure it is much better to err on the side of an unduly prolonged rest than to work a weakened nervous system too soon.

During the stage of convalescence it is necessary to recall and perhaps educate and train all the mental and bodily faculties. We should attempt this in the most gradual manner, so as not to overtax the body in any way, and thus in time the patient will be adapted for his normal conditions of life. This is the part of treatment which is usually provided for better than any other in asylums, all the occupations and amusements benefiting in this way.

(1) Read at the meeting of the Northern and Midland Division of the Medico-Psychological Association, held at Beverley on October 22nd, 1908.

The Clinical and Post-mortem Aspects of the Status Lymphaticus. By R. ERNEST HUMPHRY, M.R.C.S., L.R.C.P.Lond., formerly Assistant Medical Officer, Bucks County Asylum, Stone.

THE enormous importance of the disease under consideration is, I am sure, not adequately realised, and it is for this reason that I am particularly desirous of bringing the subject to the notice of members of the Medico-Psychological Association. In my opinion the status lymphaticus constitutes one of the most serious problems of medical science at the present time, especially in these days of deaths under anæsthetics.

The disease is characterised as being of great rarity, but I am convinced that this is far from the true state of affairs, and is only apparently so because the morbid changes are frequently missed on the *post-mortem* table. In instances of unexpected, and, perhaps, more or less sudden death, where very likely a dilemma arises at the necropsy, the death certificate must often

be signed "heart failure" to overcome the difficulty—of course, in all good faith. Again, in the large majority of sudden and unaccountable deaths in the country, no *post-mortem* examination whatever is held, and I regret to find that this is often true even on occasions of deaths under anæsthetics. With this it is probable that most of the cases have no chance of coming to light, and even when a necropsy is performed many medical men have not heard of the disease, and a far greater number would not be familiar with the changes to be found after death. Consequently one is not surprised, on writing to the Registrar-General at Somerset House, to learn that only on very rare occasions is "status lymphaticus" mentioned on death certificates, so rare that no record of such cases is kept. This being so it must appear paradoxical that I should have met with six cases in two and a half years. I have recently written a paper entitled "Clinical and *Post-mortem* Observations on the Status Lymphaticus, with Deductions, and a Plea against the Maligning of Ethyl Chloride as a General Anæsthetic," which was published in the *Lancet* of December 26th, 1908, and January 9th, 1909. Five of the cases are reported in this paper, and another very interesting instance having occurred since at the same asylum from which I obtained four of my previous cases, I am hoping that the editors of the *Journal of Mental Science* may be able to find room to publish this article. Moreover, the disease shows a marked association with epilepsy and many other hereditary neuroses, and as autopsies are universally performed at asylums, there should be here an excellent field for the further investigation of this ill-understood disease. Since writing the aforementioned paper, I notice in the last volume of Green's *Encyclopædia and Dictionary of Medicine and Surgery* (just published) that "Svehla found that the intravenous injection of thymus extract produces in dogs a great fall in blood-pressure and acceleration of the heart, and, in lethal doses, dyspnœa and collapse," further bearing out my own observations and deductions in the human subject. Now some medical men are sceptical about the existence of such a disease as the status lymphaticus, and argue that because it has no very definite physical signs and symptoms, and can only be recognised with difficulty *post-mortem*, it must be made much clearer before it can be generally accepted as a cause of sudden death. True, the physical signs and symptoms are at present most indefinite,

but this is only because, as yet, so little is known about the disease, and unless it is considered more, this will remain so. It seems probable that there is some constant change in the blood, though at present no such change is recognised. It is certain, however, that sudden deaths are frequently attributable to this pathological condition only, and as to the *post-mortem* difficulties of recognition, these are not present. The morbid naked-eye changes are gross enough and very widely distributed, though unless one is familiar with the pathological picture, it is quite easy to miss it, for very explicable reasons. Those who regard the disease as non-proven ask, How often is the thymus found weighing about 1 oz., and how often are the mesenteric glands found about the size of a pea in other conditions where death has resulted from other obvious causes? If I am wrong here I shall be glad to be corrected, but, as far as I can make out, a persistent thymus gland is only met with in cases of status lymphaticus, thymus tod, exophthalmic goitre, and leukaemia, and less constantly in acromegaly, Hodgkin's disease and myxoedema, in all of which conditions it is quite unknown what part the thymus may play in the causation of death. It is common enough to find plenty of mesenteric glands about the size of a pea, but not so to find most or all of the smaller and more peripheral glands more or less universally enlarged when there is no infective disorder of the intestines, and no signs of a generalised tuberculosis. Then, again, the glands have a peculiar pink colour that I have never seen in any other disorder, and in addition to which the chain networks of miliary lymphatics in the stomach and intestines are invariably enlarged, etc. Sudden death in children, too, is not uncommon, and of errors made in the *post-mortem* examinations on children too little, rather than too much, significance is ascribed to the presence of a large thymus gland. In autopsies on infants about the age of two to four years, when the thymus gland should have attained roughly about its maximum development, and where a rather unexpected death has taken place, it is sometimes very difficult to know what predisposing or exciting contributory part, if any, the thymus may have played in the causation of the fatal termination. It is certain, however, that after the age of about sixteen years, only an atrophied, fibrous and fatty degenerated remnant ought to be discoverable. In Case 3, recorded in the *Lancet*, the

post-mortem examination had been quite completed, and it was only on talking over afterwards the unsatisfactory results of the necropsy, and discussing the inadequacy of the causes found to account for the unexpected and somewhat sudden death, that a re-examination was made and the status lymphaticus revealed. I mention this to show that on this occasion one argued backwards instead of from a fixed starting-point. To briefly summarise the clinical features of the disease, the physical signs and symptoms presented by it are, unfortunately, in our present state of knowledge practically *nil*. The disease must be regarded quite as much an "entity" as myxœdema is. Apparently it is one that has been insidiously at work for an unknown time till some either exceedingly trivial or most serious firing-off cause inexplicably gives rise to a fulminating termination. In "acute" cases this firing-off cause may be absurdly insignificant and yet sudden death occur, while in the more "chronic" forms the firing-off cause can be exceedingly serious and yet death take place not nearly as suddenly. In the acute cases the heart is affected suddenly, either very slightly prior to the respiratory system, or, more probably, both cardiac and pulmonary mechanisms are seized "suddenly and simultaneously." In the quasi-chronic cases the respiratory mechanism, if not definitely affected first, is certainly influenced to a greater extent than the cardiac. The derangement, of either or both, seems likely to be of central nervous origin. Deaths from the disease are commonest between the ages of fifteen and eighteen years, although they have been recorded in infants of only one year, or even younger, and in subjects as old as fifty years. Possibly females are affected a little less often than males, and an hereditary disposition has been proved. The disease is more common in subjects of a lymphatic diathesis, and in offsprings of a neuropathic stock. In this particular disease the persistent or enlarged thymus gland seldom, if ever, gives rise to any appreciable dullness to percussion behind the manubrium, but on the contrary, in my opinion, it lowers the upper border of superficial cardiac dullness by pushing the heart further away from the chest-wall in front, and interposing between it and the anterior surface of the right ventricle, a substance of much less solidity than that of the heart. In the absence of emphysema this, to me, would form rather an important physical sign of the "presence"

of the thymus. The thyroid gland frequently presents a slight general enlargement. The pulse may be a little weaker and more ill-sustained than usual, owing to a flaccidity and fatty degeneration of the heart that is not infrequently found after death. Either or both the liver and spleen may, or may not, be enlarged to such a variable extent that no reliance can be placed on the absence of physical signs of enlargement, and very little indeed, if any, on the presence of the same. The cervical and inguinal lymphatic glands are rarely more palpable than usual. The faucial tonsils somewhat frequently show a very variable amount of hyperplasia, and still more frequently is there present an also varying amount of adenoid growth. The so-called pharyngeal and lingual tonsils, and even the uvula, may present more or less enlargement, but the most tangible and trustworthy evidence, when present, is to be found in the tongue. Here the two rows of circumvallate papillæ, situate on the hindermost third of the dorsum and uniting in the middle line to form an obtuse-angled V, are conspicuously prominent, and posterior to these—*i.e.*, between these and the epiglottis—there is commonly present a great hypertrophy and hyperplasia of the lymphoid tissue. So marked can this be that the whole base of the tongue may be thickly covered by a multiplication of the lymphoid nodules, the larger of which would measure $\frac{1}{8}$ in. to $\frac{3}{16}$ in. in diameter. If such a condition be typically in evidence it should be considered practically pathognomonic of the status lymphaticus, but, unfortunately, its absence does not exclude the existence of the disease. The condition cannot be seen without the aid of forehead and laryngoscopic mirrors. Some writers have described a lymphocytosis as often being concomitant, but they add that the increase in the number of the lymphocytes is neither great nor constant. Others say that there is a diminution in the percentage of the hæmoglobin.

Post-mortem the morbid changes are gross and widely disseminated. Perhaps the first two features that should attract attention are the persistence and large size of the thymus gland, together with the co-existence of hæmolymp glands in the mesentery. Now, both of these can be quite easily overlooked. The thymus is rarely so large as to obtrusively present itself, but rather remains hidden at the root of the neck, partly covered by the inner extremities of the clavicles. Hence, unless one is either looking for its presence or methodically

considering every organ *seriatim*, it will easily escape notice, especially as in most asylums and hospitals it is not the usual practice to commence the incision at the symphysis mentis, and remove the tongue, trachea, œsophagus, heart, and lungs *en masse*. The hæmolymph glands in the mesentery, too, can easily be in great part concealed by an excess of fat in this situation, particularly as the subjects of the disease are often not emaciated. The thymus presents itself as a flattish, lobulated gland lying upon the large blood-vessels and auricles of the heart, and it often has a thin, fringe-like border which overlaps the upper part of the ventricles. It weighs about 6 to 10 drachms, usually approximately an ounce. Microscopic examination of its structure only shows a hyperplasia. The tongue may exhibit prominence of all the papillæ, but it is the circumvallate papillæ in particular that are often extremely prominent, between which and the epiglottis posteriorly there is frequently a great hypertrophy and hyperplasia of the lymphoid tissue, giving rise to a most striking condition. The whole base of the tongue may be thickly covered with numerous large, rounded, and prominent lymphatic nodules, many of which measure from $\frac{1}{8}$ in. to $\frac{3}{16}$ in. in diameter. Any or all of the faucial, pharyngeal, and lingual tonsils may show a greater or less amount of hyperplasia, likewise the uvula and adenoid growths may be present in small or large quantity. A few scattered lymphoid follicles may be noticeable in the œsophagus, through the lining mucous membrane, while the interior of the stomach may exhibit a complete chain network of lymphatic nodules, which is most marked in the fundus, and gradually fades away as the pyloric extremity is approached. A few much enlarged miliary lymphatics may be scattered here and there throughout the small intestines, while in the colon these may be very numerous indeed, and quite conspicuous through the peritoneal coat externally. Peyer's patches are often thickened, and are sometimes pinkish, or purplish-pink in colour. The mesenteric glands show a very variable enlargement. They are usually about the size of a small sweet-pea, seldom larger than that of a kidney bean, and sometimes they are scarcely enlarged at all. The central mesenteric glands are naturally bigger than the peripheral, but it is the more or less uniform and universal enlargement of the peripheral ones that is so noticeable. Further, the glands, on section and *in*

situ, have a peculiar characteristic pink colour, which colouration not only appears to be constant, but seems to vary in intensity with the acuteness or otherwise of the disease. If the exciting cause has been very trivial and yet sudden death has followed, the glands are dark pink in colour, while if the exciting cause has been a very grave one, yet even then death may not have been nearly so sudden, the glands are of a much paler pink and generally uniformly larger. Sometimes the majority are pale pink, and there are in addition a good many of a much darker shade also to be found, as though the latter had been affected by a super-added inflammation of more recent date. The lumbar lymphatic glands may on some occasions be possibly a little larger than normal, but usually they are apparently unaffected, and much the same may be said of the inguinal, cervical, bronchial, tracheal, and mediastinal glands. The thyroid gland often shows a slight general enlargement. The heart frequently exhibits evidence of a fatty degeneration of its walls, and the muscular substance is flabby and friable. The right ventricular wall is often unusually thin, that of the left ventricle is occasionally a little hypertrophied. The organ, *post-mortem*, does not convey the impression that it was the first to give out. Both ventricular cavities are invariably empty, and both auricular cavities usually contain practically no blood. Sometimes there is a small quantity of blood in the right auricle. The walls of the arteries are said to show a hypoplasia, and the lumen of the arch of the aorta is described as being in some cases constricted, though no reasons have been advanced as to why it should be. When death has been instantaneous and the heart and respiration have ceased synchronously, the lungs, *post-mortem*, are normal *in situ* and on section, but when respiratory distress has been the predominant feature of the dying phase—I do not mean an obstructive dyspnoea—then the lungs are both uniformly dark and congested. The spleen is sometimes enlarged, and to a variable extent. On section its substance is both darker and softer than normal, and the Malpighian corpuscles are conspicuous and prominent. The pancreas is normal. The liver may not be enlarged, or it can be slightly or even quite appreciably so. It is sometimes dark, and on section shows a uniform injection, which is, if anything, more marked at the periphery than in the centre of the lobules. This congested condition is most frequent and noticeable in

the acute cases. The organ at other times may be enlarged, its edges rounded, and section may reveal a general indistinctness of lobulation, with presence of fatty infiltration and degeneration. The kidneys are more often normal, but in two of my cases recorded in the *Lancet* there was present an acute nephritis, which, I believe, was another effect indicative of a toxæmia, which I am convinced exists. The condition of both kidneys resembled that of a fairly early stage of acute scarlatinal nephritis, and a *post-mortem* catheter specimen of the urine gave a neutral reaction to litmus, and on analysis showed a considerable cloud of albumen as being present; the possibility of a recent attack of scarlet fever was, of course, definitely excluded. Both kidneys here were dark red in colour, and on section a marked uniform injection was at once manifest. The cortex was normal in thickness, and both cortex and pyramids were dark red and congested. The capsules stripped readily, leaving a very finely granular surface. Lastly, the bone-marrow in the shafts of the long bones is said to be much darker than normal in subjects of this disease, though, I must confess, this I have not looked for.

For this sixth case, not recorded in the *Lancet*, I again wish to acknowledge my indebtedness to Dr. Hugh Kerr, Medical Superintendent of the Bucks County Asylum, and also to Dr. Corson.

History. — The patient was a female, unmarried, æt. 32. Her physique was good, height about 5 ft. 6 in., well nourished and proportioned, and presenting a strong and healthy general appearance. Here there was no history of epileptic fits in either the patient or her family, and although her general health, apparently, left little or nothing to be desired, yet for about one month past her mental equilibrium had been observed to be manifestly affected. The condition of her mind became worse and she became so excited that on January 7th, 1909, she was brought to Stone Asylum, near Aylesbury, for admission. On being seen by Dr. Corson in the reception room a few minutes after her arrival she was in an acute maniacal state. She was restless, exalted, and talkative, and walked briskly about the room looking at the pictures, making lively comments on them, and exhibiting considerable energy and vivacity. When the nurses requested her to accompany them (to the ward) she sharply refused, and on their gently taking her arm she shook them off somewhat violently, and showed a good deal of excitement and anger. No struggling took place, and no restraint was used. Immediately after this episode she consented to go in company with her sister, who was with her; she took about three steps forward and, metaphorically, “suddenly dropped down dead.”

She fell on to her knees and forward into a prone position, lying partly on her left side with her face looking to the right. Patient then breathed about five or six times, lasting about ten or fifteen seconds, when respiratory movements ceased. Artificial respiration was at once performed, and after a few movements of this she gave just one natural inspiration. The pulse at the wrist was impalpable immediately after her fall, and the præcordium was not auscultated till about four minutes afterwards, when the heart-beat could not be heard. The pupils were observed to be dilated a few seconds after respiration ceased, but were not seen in the act of dilating.

Necropsy.—The typical pathological picture of the status lymphaticus was found, and no other recognisable morbid condition. *Rigor mortis* evident twenty-two hours after death. Thymus persistent as a lobulated gland lying on the pericardium, covering the commencement of the aorta and pulmonary artery and the anterior part of the right auricle. The uppermost portion of the gland covered the left innominate vein, and on the right side a part of it extended upwards superficial to the right innominate vein for a distance of half an inch. It weighed one ounce. Bronchial, tracheal and mediastinal glands were not enlarged. Tonsils normal to the sense of touch, no definite adenoid growths to be felt. The tongue showed unusual prominence of the circumvallate papillæ, and posterior to these, on the hindermost one-third of the tongue, the lymphoid tissue presented very numerous and marked rounded prominences beneath the mucous membrane. Mesenteric glands small, probably not much enlarged, but uniformly of a purplish-pink colour. Most of the glands were obscured by a considerable amount of fat in the omentum and mesentery. Lumbar glands showed no change, being practically white both externally and on section. Peyer's patches presented a purple congested appearance. Chained lymphatics in the stomach and intestines were not looked for, and none were noticed on account of the amount of adipose tissue present. The spleen was not enlarged, its substance was soft and friable, and the Malpighian corpuscles were very prominent. On examination of the heart, both ventricles were empty, the wall of the right ventricle was very thin, and much subpericardial fat was present. The foramen ovale persisted as a valvular aperture, but the heart in all other respects was not abnormal. Both lungs and both pleuræ were normal. The liver was enlarged and congested, and weighed sixty-three ounces. Both kidneys and supra-renals were normal. The right ovary was enlarged, and contained several small cysts filled with dark brown clot. The left ovary was less enlarged, but also contained small similar cysts.

The Housing of the Insane in Victoria, with special reference to Licensed Houses and Border-line Cases.⁽¹⁾ By W. BEATTIE SMITH, F.R.C.S., L.R.C.P. Edin., late Medical Superintendent, Metropolitan Hospital for Insane, Melbourne; late Lecturer on Mental Diseases, Melbourne University.

WHEN the Australasian Medical Congress met in Melbourne, in 1889, I dealt with "The Housing of the Insane in Victoria, with Special Relation to the Boarding-out System of Treatment." Since then I have had ample opportunity of satisfying myself that such a method of caring for and treating the harmless insane is not suited to our colonial life. Much personal attention was given to this matter, and I was not satisfied with the results, the majority of the patients being in the care of officials of the various hospitals practically as servants. This was given a trial, as the official staff were practically the only applicants, not that I believed in the advisability of granting them patients. I ceased doing so, because it was evident the cases were taken for what could be got out of them, a circumstance which existed also with other applicants. This method of caring for our accumulated insane population being demonstrated unsuitable, we perforce fell back upon institutional accommodation for the chronic harmless cases.

The Government still treats the insane as wards of the State almost regardless of social distinction, and provides no more for those paid for at a higher rate of maintenance than was available twenty years ago. At that time no licensed houses existed, and such being the case I was fully of opinion that public institutions alone should be recognised, and that they should have proper reception wards in the shape of an acute hospital with all necessary appliances for observation and treatment, where new patients may be apart from chronic, or at all events advanced cases. These public hospitals should each be so arranged as to admit of providing for the treatment of patients of different classes, whether socially or mentally, and that segregation be the point to be arrived at. Those receiving sentence and committed to gaols, as well as King's pleasure cases, should be treated in an establishment by themselves, and preferably so by gazetting a portion of a gaol as a hospital for

insane under penal administration, but medically supervised by the Inspector-General of Insane and dealt with by him.

As in my former paper, so now I would divide the State into districts, and arrange that each should have its reception wards with laboratory attachments, for observation and treatment, its convalescent wards or pavilions, its wards for chronic cases requiring skilled supervision, and some accommodation for the chronic harmless insane, the epileptic being for the most part treated in a hospital specially set apart. No scheme, however, would be complete without a pathologist, whose whole time would be devoted in a central laboratory, with facilities for visiting the hospitals and engaging in the live pathology of clinical work, and so training the assistant medical officers in scientific work at their separate laboratories. Such pathologist must be paid as a higher official.

Until quite recently this State neither properly cared for those who could be paid for at a higher rate of maintenance, nor would it license anyone else to do so, and this brings me to the treatment of the mentally afflicted in private practice—houses for the care of those under certificate now being licensed.

First and foremost, then, we must recognise that many mental cases are certifiable which should not be certified, and still more are not certifiable and yet need definite treatment. When we recognise that incipient insanity is that condition occurring between the first manifestation of mental disorder and the development of certifiable insanity, and that it also includes cases where the insanity, though obvious, is of recent origin, but not yet permanently established or confirmed, we find we have a big field to work upon. Such cases require removal (for the most part) from their usual surroundings; they require experienced nursing, rest, proper food, curative companionship, and skilled medical attendance. For such cases arising in the less well-to-do and in emergencies we have now a receiving house, which is under the jurisdiction of the Inspector-General of the Insane and in charge of a physician skilled in diagnosis, and acquainted with the clinical significance of the conditions presented; we have some provision made for those presenting perverted function or disease of the brain, which either impairs or destroys mental integrity. Such cases are admitted on fairly elastic certificates and private request, or by magisterial order on remand from court with one medical certificate, and there

they remain until hallucinations, illusions, or delusions governing conduct towards self, others, or property are sufficiently demonstrated to warrant the further certificate that disordered mental function and diseased want of self-control demand that they should be passed on to the general mental hospital. We, however, are no further on in the treatment of those who are able to be paid for at the higher rates of maintenance and with greater privacy, because the treatment of gaol remands in association with others is not desirable. Until the advent of licensed houses five years ago we had in our midst a few homes where such cases were cared for, and for the most part well cared for, in the same way as now under licence—albeit against the law. Let us now consider what that law was, and the chronological order of events from the year 1867 and Act No. 309.

Notes on Licensed Houses and Border-Line Cases.

At common law there is no prohibition against harbouring or taking the care of a lunatic for reward or otherwise, and prior to 1867 there was no statutory prohibition in this State. In that year the Act No. 309 provided, Sec. 24, that licences to receive a "certain" number of lunatics might be granted, providing that where the house covered by the licence contained over one hundred patients a resident medical practitioner was required, where there were over fifty and not more than one hundred, a daily visit was necessary, and where it contained fifty patients, or less, a visit three times a week was prescribed.

A licence might also be granted under Sec. 44 for the reception of a single patient only.

Consequent on these provisions it was (by Sec. 34) rendered unlawful to receive *two or more* "lunatics" into a house unless it was licenced and also (under Sec. 44) the receiving a patient as "a lunatic or an alleged lunatic" was, unless authorised under the Act, also prohibited.

In 1888, by the amending Act, Sec. 34, licences for houses were discontinued except for the reception of "single" patients, the prohibitions remaining as before. Under the Consolidation Act, No. 1113, it was rendered an offence to receive two or more lunatics into any house (Sec. 61) under any circumstances, but a single patient might be taken if the house were licensed or if the person were otherwise authorised under the Act.

Under the amending Act of 1903 (No. 1873) it has become lawful for anyone to receive one or more patients if he obtains authority to do so or does so without deriving any profit from the charge. That authority may consist of :

(a) In the case of single patients—

- (1) The order of Justices under Sec. 24 (4).
- (2) The being the Committee of the person of a lunatic so found.
- (3) The appointment by the Supreme Court.
- (4) The boarding-out of the patient (Secs. 97 and 98).
- (5) The patient being on trial leave from an Asylum (Sec. 93).
- (6) The licence (Sec. 56) with certification.

(b) In the case of more than one patient to an unlimited number, on a licence (Sec. 56) and certificates.

The new feature is that no patient can be received into a licensed house without certification. The offence as now constituted consists of taking charge without authority of a person “deemed to be insane.”

These words “deemed to be insane” in themselves amount to an admission that the person is not actually and demonstrably insane but that for the purposes of the Act he is, under certain conditions, held to be insane.

He may be held to be insane either from his own acts and mental condition where there is no restraint or treatment of him *ejusdem generis* with that applied in asylums, or he may be deemed to be insane when such restraint or treatment is applied to him without its being apparent that he is insane; so that, without entering into an investigation as to the fact of or the extent of his insanity, if the circumstances of detention, seclusion, treatment or conditions usually considered proper or necessary with regard to persons under treatment for insanity, exist, the person will be “deemed to be insane.”

In whose opinion is the person “deemed” to be insane? In the opinion of the person having charge of the insane person, so as to raise the question of scienter? Or, is it to be a matter of general repute, or the specific opinion of the Inspector-General or the finding of the Justices?

If a person is “deemed to be insane” the procedure under Sec. 22 must be followed. If he prove to be certifiable he must be sent to a hospital for the insane, or be committed to the

care of a relative or friend. *There is no provision for sending him to a licensed house.*

If the medical practitioners do not agree as to the insanity of the person, he may be sent to a receiving house for seven days and remanded from time to time for two months. But if they concur in refusing to certify there is no course but to discharge, and he will again be taken into an unlicensed house with the same procedure over and over again to be repeated.

Any person may gratuitously and out of affection or friendship take the care or charge of a lunatic without incurring any personal responsibility under the Act, but in such cases if it appears that the lunatic is not under proper care or control or is cruelly treated he may be certified and committed to an asylum.

Where any person "derives profit" from the care of the lunatic he immediately becomes subject to the penalties in the Act.

"Derive a profit" means not necessarily a pecuniary balance of gain over expenditure, for that might depend on the ability and skill of the person to expend his receipts advantageously, and might excuse a person who received inadequate payment and starved the patient, and render liable the person who was paid liberally and treated his patient well. "Derive a profit" means derive any benefit or advantage, and would include enforceable payments as well as voluntary subscriptions, and would cover the case where no money passed at all.

The following are notes of two cases decided in England: The case of *R. v. Shaw*, L.R.—1 C.C.R. 145 arose in 1868, upon Sec. 90 of the Act 8 and 9 Vict., C. 100, which prohibited any person taking a *single* patient in an unlicensed house unless duly certified to, and the question was argued whether imbecility and loss of mental power arising either from natural decay or from paralysis, softening of the brain, or other supervening cause, if unaccompanied by frenzy or delusion of any kind, constituted "unsoundness of mind" so as to be within the definition of "lunacy" in the Act.

The Court held that imbecility arising from gradual natural decay of the faculties constituted "lunacy" under the Act.

The case of *R. v. Bishop*, L.R. 5 Q.B.D. 259, in the year 1880, arose mainly on the question as to whether "scienter" was necessary on the part of the person having the care of an

alleged lunatic. This case was under Sec. 44 of the 8 and 9 Vict., C. 100, which prohibited anyone from receiving *two or more* lunatics without a licence. It was admitted that there was one lunatic in the house covered by a licence, and the point was whether other inmates suffering from "hysteria, nervousness and perverseness" could be deemed "lunatics."

Stephen, J., says that the definition of "lunatic" in the Act as "every insane person and every person being an idiot or lunatic or of unsound mind" was sufficiently wide to include every person who is by reason of mental disease, or disease affecting the mind, in such a condition that it is necessary or advisable, at any rate for his own good, to subject him to the restraint of a public asylum. If there is any difference between a lunatic, an insane person and a person of unsound mind, those persons of unsound mind, not being lunatics, must be such that it is necessary for their own good to subject them to that kind of restraint which is exercised in lunatic asylums over persons afflicted with insanity.

In this case the Court held that the "restraint" alluded to meant restraint *ejusdem generis* with that applied in asylums. The jury found the defendant guilty, and the Court determined that it was no answer that the accused did not know that the individuals were lunatics.

In private practice the question which stares us in the face is, What are the rights and responsibilities of medical men to control their patients for the purposes of treatment? In other ailments relatives do their best to carry out instructions. Why they are unwilling to obey advice in mental maladies is difficult to say, though there are many factors which sway them, and in consequence numbers of cases become chronic. Ignorance, want of decision, and failure of application to those skilled clinically in the knowledge of the manifestations of mental unsoundness are largely to blame. The old bogey "stigma" has a deterrent effect in preventing early cure. The disease is the stigma and not the treatment, as common interpretation has it. Commercialism also has its say both in the relatives and the profession. The marriage of other members of the family counts for delayed treatment in addition to the possible spread of mental unsoundness, though I daresay if we got rid of all known heredity and started afresh we should, by-and-bye, be "as you were," that is, acquired neuroses by reason of work,

over-work, no work, environment and habits would soon create a fertile bed for the production of symptoms of perverted function and disease. The answer to the question of medical rights and responsibilities is really simple, the medical man gives advice and grants certificates, but the relatives do the rest. It is incumbent upon the physician, however, to state clearly the risks that are being run and to impress upon the relatives that the responsibility lies with them. If a medical man honestly believes in an early recovery and sends a case for care and treatment to an unlicensed house with skilled attention until the case turns out certifiable and is certified, why should the law come on the caretaker and the doctor? Technically, an insane person has been kept for pay, and the Inspector-General of Insane with his battle-axe of stupid law can prosecute when actually the condition is the same as if the patient had been treated at home without pay, and, perhaps, to his detriment until certified. Something must be done to ease matters in a common-sense fashion. The early treatment and prophylaxis should be under the medical care of those skilled in such knowledge, either under direct Government control or in recognised private houses properly staffed, and under notification, but not certified as insane, the notification being a form of certificate signed by the practitioner as to mental ailment or defect filed in the house, and a copy sent to the Inspector-General of the Insane. Notification and supervision would be the keynotes. This certification would be for a period, and might be renewable on approval. Definite certification for licensed house or hospital would follow or not as the case may be, and would be determined by the Inspector-General in consultation with the medical attendant, no official visitors being permitted to visit. Those cases would be directly under the care of the medical attendant attached to the house in order that no divided control of the staff should militate against the patient, and that a continuity of treatment with the responsibility thereof would be maintained. Where desired the relatives may request the attendance of a medical man of their own selection. By this means we get rid for ever of the wretched expression "deemed to be insane" of the present Act. Thus we may hope to reduce the numbers of occurring insanity, since in all such cases as I have instanced this is the only conservative treatment which is not hazardous. Such form of

certificate from the doctor, together with a request from a relative as protects the house and without which a patient may not enter save voluntarily by his own written request, would sufficiently safeguard the rights of property, and in some measure maintain the peace of families. In this way we shall definitely arrive at the facts whether actual certification is necessary, unnecessary, cruel or injurious. Some form of certification in many cases does affect treatment favourably, absolute control being the first essential to treatment. The more perfect the legal control the more freedom the practitioner has for the treatment. This must be ensured by proper legal methods, since to deprive anyone of his liberty on incorrect diagnosis through insufficient observation is a matter to be studiously avoided, and the admission of such cases to licensed houses receiving the fully certified is not to be thought of. Neither should such licensee be permitted to have a house, separate though it may be, for the treatment of early cases.

The treatment in such sanatorium under notification would be in all respects as vigorously carried out to prevent insanity as for its care on full certification, and with the knowledge of control the case would be better treated. Some such scheme should be made law, because the treatment of the mentally afflicted by the inexperienced and under unsuitable conditions has developed to such an extent that something must be done.

Since legal formulary impedes early treatment, surely some statute law as for the State reception house might be made available for the approved notification sanatorium cases, and thus supersede the common law, alike for the benefit of the patient, the satisfaction of relatives, and the protection of the physician.

(¹) Read at the Meeting of the Australasian Medical Congress held at Melbourne, October, 1908.

Receiving Houses. By W. ERNEST JONES, M.R.C.S.Eng.,
Inspector-General of the Insane for the State of Victoria.

THE use of Receiving Houses, that is to say, houses established specially for the observation of doubtful cases of mental disorder, is almost entirely of Australian origin, although something analogous exists, and has existed for many years in

England and Scotland, in the Lunacy Wards attached to the Workhouses, Infirmarys, and Poor Houses. The latter, however, do not fulfil all the uses that the Receiving House can be put to; neither are they independent institutions, nor do the terms for which patients can be received correspond.

The origin of Receiving Houses is to be credited to the enterprise of the late Dr. Norton Manning, for many years the Inspector-General of the Insane in the State of New South Wales, and their inception was due to the fact, that the procedure for the reception of persons of unsound mind into an institution for the insane was so closely associated with the Police Court, that to be regarded as insane was much the same thing as being a criminal.

I have been deeply impressed with this fact when interviewed by patients in our State Hospitals for the Insane, inasmuch as very many bitterly complained that they have been hauled before the Court, although they had committed no crime, and yet they were subsequently committed on a charge of being a lunatic, although "of course there was nothing the matter with their brain." If there was any doubt, the person so charged was remanded to a prison or police station for medical observation.

To obviate this disgrace, the Receiving House was originated, and unquestionably it has most usefully fulfilled the functions for which it was created. It is possible also for the police of New South Wales to arrest and take to the Receiving House any case that is considered to be deranged in mind or wandering at large, without any preliminary steps in the way of certification. But it is necessary that the person so arrested should be taken before a court, in order that his detention may be confirmed or his discharge granted. In all this, the police element pervades the whole procedure.

In Victoria, the methods quite recently established by the Lunacy Act of 1903 are somewhat different, as, although the Act permits of the reception for observation of a person sent from a police court, it does not permit of a patient being admitted without some certificate from a medical practitioner; but it does permit of the reception of a doubtfully insane person through other channels than those of the police station or court, inasmuch as, on the application of any responsible person, accompanied by two modified medical certificates, a

person whose mental condition is apparently unsound may be admitted therein for a period of one month, which may under certain conditions be extended for a further period. It is obvious, therefore, that the provisions in Victoria permit of the use of the Receiving House for curative as well as observation purposes, and the Melbourne Receiving House about to be described has been arranged for that double purpose.

When I came to Australia, early in 1905, I found in Victoria three lunacy wards. They were small, unsuitable buildings, containing from four to six rooms, meagrely furnished, with very poor lavatory, bath, and kitchen accommodation, and with tiny walled-in back yards for airing courts. They were attached to, and staffed by the General Hospitals at Bendigo, Geelong, and Castlemaine. The latter two wards were but rarely used, and the last-named has since been given up. At Bendigo, some 60 to 80 patients were received annually, and were detained for a period of a few days up till a month, and only occasionally as long as six weeks. After having made various appearances at the police court, the patients sent to the ward for detention were either discharged, or fully certified and sent on to one of the State Hospitals for the Insane. About one third of these cases did not go on to the Hospitals for the Insane. The majority of those discharged recovered were cases of acute alcoholism, although of the number admitted to the lunacy ward, a few cases of attempted suicide were usually received. Such treatment as was possible was given, but only in the case of very evanescent disorders were recoveries returned.

The only other places in Victoria, where doubtful cases could be received were the gaols in the country and the Gaol Hospital in Melbourne, with this exception, that, in a few instances, patients were admitted into the wards of certain general hospitals, such as the Melbourne Hospital.

A visit to New South Wales convinced me of the fact that in the latter State their methods were the better, and that their Receiving House in Sydney was doing very good work, although it was dealing largely with police cases, alcoholics especially; and that whilst approximately one half of the police cases were discharged in a few days, quite an insignificant number of the patients admitted, under lunacy certificates, were treated for such a period of time as would enable them to be discharged as recovered. Let us take, for example, the year 1906 : 752 police

cases were admitted and 347 discharged, whilst out of 171 admitted under lunacy certificates only 5 were discharged as recovered, whilst of the police cases, it appears that nearly one half were cases which would, in any event, have been sent on to the hospitals for the insane.

In organising and planning the Receiving House at Melbourne, an attempt has been made to deal with cases of mental disorder rather than the observation of police cases, and in this I think it may be claimed that some little success has been obtained, as will be seen from the accompanying statistics, and especially Table V, which sets forth the diagnosis of the mental disorder in the cases received.

In describing the Receiving House at Melbourne, one should perhaps mention first of all that a suitable site was difficult to obtain, and further that the area of ground was barely large enough, and the conformation of the site was of such a character that ideal orientation could not be obtained; neither could the original plan of the building be carried out in its entirety. However, the male side has been carried out faithfully, and the only discrepancies from the original plan (reproduced) appear on the female side.

The building consists of a central administrative block and two wings: in the former are contained a small compact residence for the officer in charge, offices, waiting rooms, a dispensary, and quarters for the matron in front. Behind are the kitchen, scullery, laundry, and boiler house. From the middle of the centre block broad, half-open verandahs lead into the wards, that is to say, verandahs on the weather side, half brick and glass, and on the other side open wire work. In the wards a central corridor lighted from the top has on one side dining rooms for the staff and patients, a scullery, a clothes store, and a bedroom for the charge attendant; on the other side is an examination room, with a bed, a bath, and lavatory basin. Next this there are two bedrooms for the staff, then four single rooms for quiet patients not needing continuous observation.

From the corridor two doors open, one into the day room and one into the dormitory. The dayroom is a very bright room, with ample windows and window seats. The dormitory is also very bright, and affords accommodation for twelve patients, and at the end of it are four single rooms, one being

RECEIVING HOUSE (PLAN) ROYAL PARK MELBOURNE

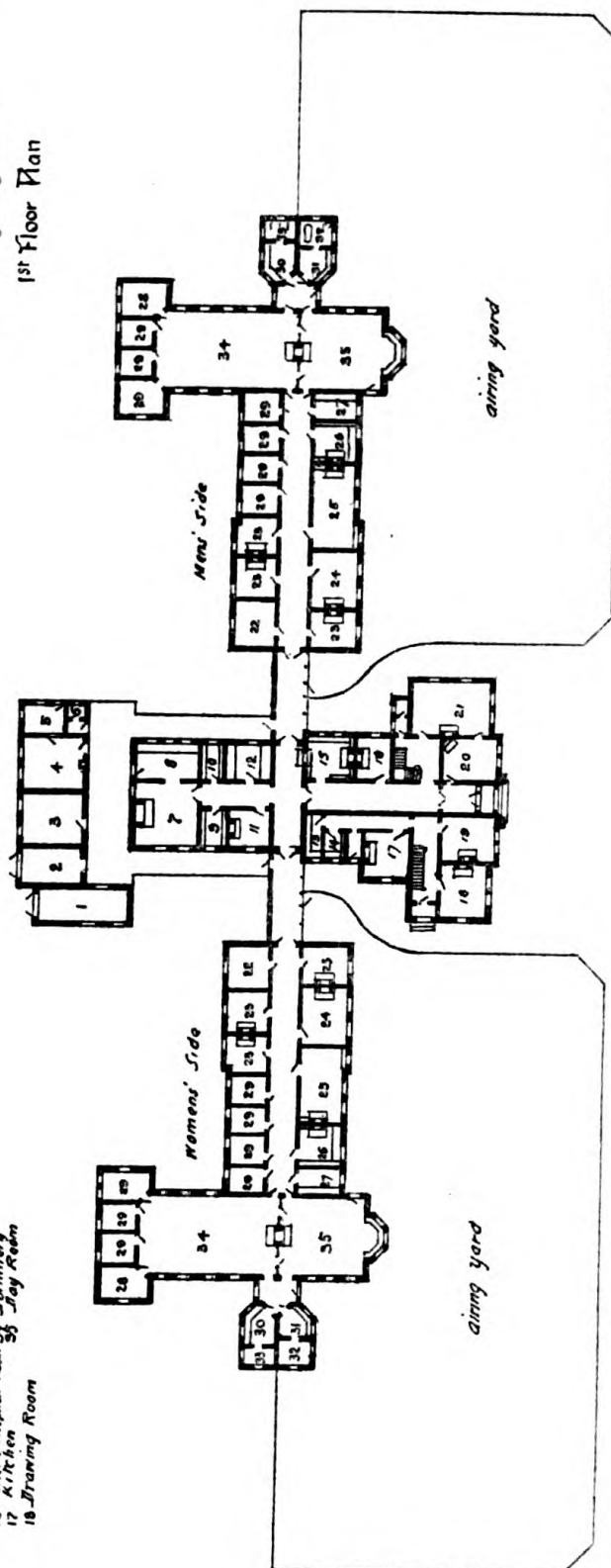
SCALE:- 40 FT. to 1 INCH.

- Ground Floor Rooms**
- 1 Boiler House
 - 2 Coal House
 - 3 Wash House
 - 4 Laundry
 - 5 Drying Room
 - 6 W.C.
 - 7 Kitchen
 - 8 Scullery
 - 9 China Pantry
 - 10 Pantry
 - 11 Coal Store
 - 12 Store
 - 13 Larder
 - 14 Fridge Pantry
 - 15 Surgery
 - 16 Barber's Shop
 - 17 Kitchen
 - 18 Drawing Room
 - 19 Dining Room
 - 20 Waiting Room
 - 21 Office
 - 22 Examination Room
 - 23 Patients' Room
 - 24 Patients' Sitting Rm
 - 25 Dining Room
 - 26 Scullery
 - 27 Linen Closet
 - 28 Bed Room
 - 29 Single Room
 - 30 Urinal and Lavatory
 - 31 Laundry
 - 32 Bath Room
 - 33 W.C.
 - 34 Barber's Shop
 - 35 Day Room

- 1st Floor Rooms**
- 1 Linen cupboard
 - 2 Bath room
 - 3 - - -
 - 4 Cooks bed room
 - 5 Bed Room
 - 6 Landrest bedroom
 - 7 Store room
 - 8 Patients' Sitting Room
 - 9 - - -
 - 10 Bed room
 - 11 Bed room
 - 12 Bed room



1st Floor Plan



Wm. S. Jones.

padded and with a divided door. Both the dormitory and dayroom open into a well ventilated sanitary spur, the connecting corridor of which opens into an airing court. The spur contains a dressing room, a bath room with a plunge bath, as well as a nicely arranged shower bath, good lavatories, and w.c.s. of the latest cantilever pattern. Everything has been done to make this block sanitarily perfect; the floors and walls nicely tiled, and a good pattern of lavatory basin adopted, a plunge bath fitted with Doulton safety valves, and the shower bath has a thermometer fixed in the delivery pipe to regulate the heat of the water. Between the dayroom and dormitories a very artistic lead glass screen has been placed, thereby giving brightness and decoration impossible to obtain with ordinary walls.

In the internal corridors wood pulp flooring has been laid on concrete, presenting a warm effect, and being practically noiseless. Great care has been exercised throughout in the ventilation, especially with the single rooms, the windows of which are provided with shutters which lock back into the side wall. The lighting is electric throughout, and telephones are placed everywhere. Outside the various blocks are fire hydrants, from which an excellent pressure is always obtainable. Internally, chemical extinguishers are relied on to deal with any fire emergency.

I have already said that the plan I proposed to build on had to be modified, and this for several reasons. The total cost of the building was nearly £14,000, and that may be taken as being a very high figure. I had hoped to have had this building erected for some £10,000 to £11,000; but it was found necessary to modify in some particulars our requirements, and this was done principally in dealing with the female wing—for, taking Darlinghurst and its numbers as a guide, I found that the number of female admissions was barely half that of the males. I have occasionally to regret that I permitted any departure from my original plan. I must confess that I have made a mistake in not having a verandah built along the western front of the wards; in omitting this I was biassed by the fact that the verandahs in most of our State Hospitals, built, as they are, on both sides of the long gallery wards, cut off so much light and interfere so much with the through ventilation, that I determined (wrongly I think now) to dispense with their assistance.

Statistics.—I have taken the year that has elapsed since the Receiving House was opened, that is to say from September 24th, 1907, to September 23rd, 1908, inclusive. We have admitted 339 cases (184 males, 145 females), but of these 3 males and 7 females were readmissions during the year, so that we have dealt with 329 persons. Of the 339 cases, 128 (72 males and 56 females) have been discharged recovered, 2 males and 2 females relieved, and 3 males and 2 females not improved. One patient (a male) died; he was admitted very seriously ill, and died a few hours after admission. One hundred and eighty-four (100 males, and 84 females) were transferred to the State Hospitals, so that we have 128 successes to set against 184 failures, and when we consider that among the latter number we have had 26 general paralytics, a few imbeciles and senile demented, and a considerable number of epileptics (21), I think we may assume that the Receiving House has (considering the fact that a two months' stay is the longest period possible) carried out its intention in a reasonably satisfactory manner.

With regard to the cases received: Mild cases of mania and melancholia have given us good results, and I would remark in passing that we admitted no less than 101 cases of suicidal intent, some of them undoubtedly severe cases, and of these two men and one woman sometime subsequently to discharge succeeded in encompassing their own destruction. Our best results were from cases of alcoholism, principally amongst the men, and hystero-mania amongst the women.

As to causation: As usual, in this State, heredity ranks very low, only 44 cases out of 339 giving a hereditary history of insanity. Alcoholism is the most important cause: 58 cases show alcohol as a factor. Ill-health and mental anxiety or overwork account for 54 and 28 cases respectively. Previous attacks were noted in 27 cases. The average age of the admissions was 42 years.

Conclusions.—I feel that the institution of Receiving Houses in English towns, having a population of 100,000 or more, would prove the solution of many of the difficulties of dealing with recent cases of mental disorder amongst the working classes. Such a house could be run in connection with an infirmary or a general hospital, or even an asylum for the insane, if it be reasonably accessible to the centre of population; but it is

RECEIVING HOUSE, ROYAL PARK.

TABLE I.—*Showing the Admissions, Re-admissions, Discharges, and Deaths, during the Year ending 23rd September, 1908.*

	M.	F.	Total	M.	F.	Total
Cases Admitted:						
First Admissions	184	145	329			
Not First Admissions (Readmissions) ...	3	7	10			
Total Cases Admitted during the year ...				187	152	339
Total Cases under care during the year ...				187	152	339
Cases Discharged:						
Recovered	72	56	128			
Relieved	2	2	4			
Not Improved	3	2	5			
Died	1	0	1			
Transferred from the Institution	100	84	184			
Total Cases Discharged and Died during the year				178	144	322
Remaining in the Asylum 23rd September, 1908				9	8	17

TABLE II.—*Showing the Length of Residence in those Discharged Recovered, and in those who have Died, during the twelve months ended 23rd September, 1908.*

Length of Residence.	Recovered.			Died.		
	M.	F.	Total.	M.	F.	Total.
Under 1 month	55	41	96	1	0	1
1 month and under 2 months ...	17	15	32	0	0	0
Total	72	56	128	1	0	1

TABLE III.—*Showing in Quinquennial Periods the Ages of those Admitted, Recovered, and Died, during the Years 1907—08, and of those remaining on 23rd September, 1908.*

AGES.	The Admissions.			Recovered.			The Deaths.			Patients Resident, 23rd September, 1908.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
5 years and under 10 years	...	...	...	...	...	...	...	...	...	...	...	...
10 "	1	1	2	1	...	1	1	...	1	...	...	...
15 "	6	3	9	2	...	2	...	...	...	2	1	3
20 "	17	21	38	8	9	17	...	...	...	...	2	2
25 "	14	14	28	5	3	8	...	...	...	...	1	2
30 "	18	16	34	6	7	13	...	...	...	...	1	2
35 "	33	21	54	10	10	20	...	...	...	...	3	5
40 "	24	24	48	10	12	22	...	...	...	2	1	3
45 "	36	23	59	15	10	25	...	...	...	...	...	...
50 "	12	14	26	4	3	7	...	...	...	1	...	1
55 "	9	3	12	4	...	4	...	...	...	1	...	1
60 "	3	2	5	...	1	1	...	...	...	...	...	...
65 "	6	5	11	5	1	6	...	...	...	...	...	...
70 "	4	1	5	1	...	1	...	...	...	...	...	...
75 "	4	1	5	1	...	1	...	...	...	...	...	...
80 "	...	1	1	1	...	1	...	...	...	...	...	...
85 "	...	2	2	...	...	...	...	...	...	...	...	...
90 "	...	...	...	...	...	...	...	...	...	...	...	...
100 "	...	...	...	...	...	...	...	...	...	...	...	...
Unknown	...	...	...	...	...	...	...	...	...	...	...	...
Total	187	152	339	72	56	128	1	...	1	9	8	17
Mean Age	43	39	42	41	38	40	18	...	18	37	31	34

TABLE IV.—*Showing the Probable Causes of Insanity in the Patients Admitted during the Year ended 23rd September, 1908.*

CAUSES OF INSANITY.	NUMBER OF INSTANCES IN WHICH EACH CAUSE WAS ASSIGNED.									
	Admissions {					No. of Cases—				
	Males—187. Females—152. Total—339.					As Predisposing or Ex-				
	As Predisposing Cause.					As Exciting Cause.				
	M.		F.		Total	M.		F.		Total
	M.	F.	M.	F.	Total	M.	F.	M.	F.	Total
MORAL—Domestic Trouble (including loss of relatives and friends) ...	...	...	...	...	...	...	...	...	...	...
Adverse Circumstances (including business anxieties and pecuniary difficulties) ...	...	...	...	...	...	...	...	...	...	...
Mental Anxiety and Worry (not included under the above two heads), and Over Work ...	1	...	1	12	9	2	1	5	1	6
Religious Excitement ...	...	...	...	...	...	...	...	...	...	...
Love Affairs (including seduction) ...	...	...	...	...	...	...	...	...	...	...
Fright and Nervous Shock ...	1	1	2	40	9	6	1	7	47	58
PHYSICAL—Intemperance in Drink ...	...	...	...	...	...	...	...	...	...	...
Intemperance (sexual) ...	...	...	...	...	...	...	...	...	...	...
Veneral Disease ...	5	...	5	3	1	2	...	2	10	11
Self Abuse (sexual) ...	...	...	...	...	...	...	...	...	...	...
Over Exertion ...	...	...	...	...	...	...	...	...	...	...
Sunstroke ...	1	...	1	...	...	...	...	...	...	...
Accident or Injury ...	2	...	2	5	2	1	...	1	8	2
Pregnancy ...	...	...	...	...	...	...	...	...	...	...
Parturition and the Puerperal state ...	...	...	...	...	...	...	...	...	...	...
Lactation ...	...	...	...	...	...	...	...	...	...	...
Uterine and Ovarian Disorders ...	...	...	...	...	...	...	...	...	...	...
Puberty ...	...	...	...	...	...	...	...	...	...	...
Change of Life ...	...	...	...	...	...	...	...	...	...	...
Fevers ...	...	...	...	...	...	...	...	...	...	...
Privation and Starvation ...	...	...	...	...	...	...	...	...	...	...
Old Age ...	1	1	2	1	3	3	2	1	5	6
Other Bodily Diseases or Disorders ...	2	7	9	16	22	6	1	...	24	30
Previous Attacks ...	13	13	26	...	...	...	...	...	13	14
Hereditary Influences ascertained (direct and collateral) ...	20	24	44	...	...	...	...	...	20	24
Congenital Defect ascertained ...	...	...	...	...	...	...	...	...	8	8
Other ascertained Causes ...	...	...	...	...	...	...	...	...	4	6
Unknown ...	...	...	...	...	...	...	...	...	35	22
Total ...	46	61	107	104	99	203	76	31	107	226
Deduct for combined causes ...	...	...	...	...	...	...	...	...	39	78
Total Admissions ...	46	61	107	104	99	203	76	31	107	226
									187	152
									339	339

TABLE V.—*Showing the Form of Mental Disorder on admission in the Admissions, Recoveries, and Deaths for the year 24th September, 1907, to 23rd September, 1908, inclusive, and the Form of Mental Disorder of the Inmates on 23rd September, 1908.*

Form of Mental Disorder.	Admissions.			Recoveries.			Deaths.			Remain- ing on Books.		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
I. Congenital or Infantile Mental Deficiency (Idiocy or Imbecility) occurring as early in life as it can be observed.												
1. Intellectual :												
(a) With Epilepsy ...	3	2	5	...	1	1						
(b) Without Epilepsy ...	7	3	10	2	2	4	...	...	...	2	...	2
2. Moral.												
II. Insanity occurring later in life.												
1. Insanity with Epilepsy...	11	5	16	5	...	5	...	...	...	1	...	1
2. General Paralysis of the Insane	21	5	26	...	...	...	...	...	...	1	...	1
3. Insanity of the grosser Brain lesions	3	1	4									
4. Acute Delirium (acute Delirious Mania)	1	...	1	1	...	1						
5. Confusional Insanity.												
6. Stupor ...	3	2	5	...	1	1	1	...	1			
7. Primary Dementia ...	12	10	22	5	2	7	...	...	...	...	1	1
8. Mania :												
(a) Recent ...	17	23	40	9	9	18						
(b) Chronic ...	2	...	2	1	1	2						
(c) Recurrent ...	6	6	12	1	3	4	...	...	...	1	...	1
9. Melancholia :												
(a) Recent ...	30	32	62	14	9	23	...	...	...	2	2	4
(b) Chronic ...	2	3	5									
(c) Recurrent ...	6	4	10	2	2	4						
10. Alternating Insanity.												
11. Delusional Insanity :												
(a) Systematised ...	13	16	29	4	5	9	...	...	...	2	...	2
(b) Non-systematised ...	14	14	28	2	6	8	...	...	...	...	3	3
12. Volitional Insanity :												
(a) Impulse ...	3	2	5	1	2	3						
(b) Obsession.												
(c) Doubt.												
13. Moral Insanity.												
14. Dementia :												
(a) Senile ...	7	8	15	2	...	2						
(b) Secondary or Terminal...	5	2	7	2	...	2						
15. Neurasthenia ...	1	...	1	1	...	1						
16. Alcoholism ...	18	7	25	18	7	25						
17. Toxic Insanity and Narco- mania	1	1	2	1	...	1	...	...	...	...	1	1
18. Hysteria and Hystero-mania...	...	6	6	...	6	6	...	...	...	...	1	1
19. Amnesia...	1	...	1	1	...	1						
Totals ...	187	152	339	72	56	128	1	...	1	9	8	17

N.B.—The discharge, as recovered, of imbeciles and epileptics may appear an unusually optimistic thing, but in all cases so discharged these patients were so well as to be able to resume their places in Society, and to return to the work which they had previously been performing.

essential that the medical officer in charge should have had a thorough training in the treatment of mental disorders ; and in passing one might mention that such a necessity would provide openings for the assistant medical officers of large institutions, who have at present far too long a period of waiting to look forward to ere they can meet with a reasonable reward. A very desirable adjunct to the Receiving House would be a convalescent home in the country, wherein the recently recovered could be received for an easy probationary period, before returning to the struggle for existence. I feel sure that the institution of these methods would seriously reduce the number of the insane in the asylums and State hospitals of English-speaking communities, and incidentally lower the cost of the maintenance of the chronic insane, as there would be less necessity to provide elaborate accommodation in the large State asylums.

I attach statistics drawn up in much the usual way to show the number of patients admitted and discharged, as well as the causes of, and kinds of, mental disorder amongst our patients.

Insane Movements and Obsession.⁽¹⁾ By J. LOUGHEED
BASKIN, L.R.C.P.Ed., Medical Superintendent, Fisherton
House.

ONE cannot visit the wards of an asylum without realising that there are many types of mental disease, each with its own symptoms and physical signs, and that intercurrent and overlapping affections of the mind are especially common ; thus, in maniacal excitement you may find delusions, in paranoia you find delusions with marked impairment of judgment, in general paralysis you get, in addition to physical signs, delusions, which vary from the facility of the early period to the more difficult mentation found in the advanced age, so that here we have three distinct types of disease, each of which may have delusions, and the delusions may all be of the exalted variety—the patients may consider themselves gods, kings, or mighty personages. The progress of research has had more difficulties to contend with in the subject of mind than in almost any other. It is a subject which is intangible, yet its reactions can be timed.

It is unseen, yet its force can manifest itself in various ways through various channels, and it is even possible to transfer it from one person to another if the medium is so constituted, as in hypnotism, thought transference, and similar phenomena. It may occur to you to ask why has the subject of insane movement and obsession been chosen for this paper; well, gentlemen, for some years it has been my lot to witness, on my daily round of the wards, grotesque movements, antics and pantomimic display by patients, which, were they not interesting as symptoms and physical signs of nervous disease, might otherwise be depressing because of their meaninglessness. About three years ago, however, I had my attention drawn to a woman who seemed engaged in making movements, the precise character of which I had not read of or seen before in any asylum. I shall show you this patient making these movements by means of the cinematograph. We would have brought her here only she obstinately refuses to operate when watched, and it was necessary to have the cinematograph pictures focussed through a partly open window when she least suspected observation. Gentlemen, we are well acquainted with such terms as insane acts, insane expression, insane language, insane conduct, and insane movements.

There will be no doubt from what may be learned from these movements that they are insane; moreover, a careful consideration of their diagnosis opens up the question of obsession. Now, gentlemen, what are these movements? What do they mean? How can we explain them? Are they very common? Are they prejudicial to the patient's life? How can such cases be treated? These are questions which naturally occur to the physician when they are brought under his notice. Let us examine the mental condition of the patient, and then we shall be in a better position to understand the movements. The features of the well-known disease dementia præcox, especially the paranoidal form, are all to be found in this case. We have verbigeration in the frequent remark made by the patient: "Give up the keys and get your head cut off." Negativism, in her refusal to answer any questions; her affections are impaired, and she either refuses to see her sister or she is very abusive to her. Stereotypism is evident in the movement of her limbs. It is impossible to test her memory or comprehension except concerning such elementary

actions as getting in and out of bed, remembering the right bed, eating off her own dish, and knowing the use of soap, water, and a towel. These habits she performs fairly well. There are no cataleptic signs or rigidity, and she is impervious to verbal suggestions. Volition is largely replaced by automatism. Now, gentlemen, in connection with this disease certain movements of the limbs and hands have been described by various writers and authorities, but none approaching the range, precision, and duration of those exhibited by this patient; Dr. Bolton describes a case of the katatonic variety of dementia præcox in which the patient made habitual movements of the hands and forearms. Dr. Clouston describes the case of a voluntary boarder who came to his institution because she could not restrain certain movements of the limbs, which were aggravated in her case at the menstrual epoch. He termed it muscular mania. Let me now describe the movements.

You will observe the frequent elevation of the arms: the movement begins from below upwards; the hands are raised to the level of the head and passed down to a few inches below the knees, with the arms fully extended and adducted so as to touch the knees in their upward passage. The patient performs always in the sitting posture; the fingers are extended and adducted. There is no tremor of the limb, the upward movement is perceptibly quicker than the downward, the eyes are fixed looking straight in front; at the beginning of the action the lips twitch slightly, the expression is one of pain; as the operation is repeated the expression becomes less unhappy, and finally even a semi-contented appearance takes place on the countenance. These movements are performed daily all the year round; they begin when she rises in the morning, the continuity being only broken for the purpose of dressing and having her meals. They continue all day, and when the other patients have been put in bed she still insists on sitting in her bedroom and performing for an hour after everyone else has gone to sleep. The movements are noiseless; they are rhythmic and varying in frequency from 30 to 45 per minute, which is about the rate of stroking in the boat race.

What is the effect of these movements? Well, gentlemen, I believe that they exercise the patient. She enjoys robust health; they take the place of walking, for she refuses to go for a walk

except the very shortest distances in the ward. She does not perspire nor have difficulty with her breathing, thus showing the perfect condition that this insane training has produced. Movements, as found in the insane, may be briefly classified, according to their relationship to time and the figures performed, into rhythmic and stereotyped and arrhythmic and dissimilar. According to the anatomical distribution you may have, firstly, movements of the large joints and trunk muscles, as in nodding movements of the head, swaying of the trunk and waving of the arms and dancing, all of which can be seen any day in an asylum. Secondly, a finer class of movement taking place mostly in the smaller joints, exemplified by picking clothes, rubbing fingers together, and protrusion of the tongue; and thirdly, twitchings, or minute spasms which chiefly affect the muscles of the face. On analysis, the movements will be seen to consist of flexion and extension, abduction and adduction, rotation, circumduction, or any combination of these; they may take place on any plane.

When do movements, which under ordinary circumstances are normal, become so altered as to deserve the description insane? There are many insane persons whose movements are highly skilled and well co-ordinated; every asylum contains its billiard-playing patients, some of whom make good breaks with a regularity that compares well with the standard of playing found in our best club billiard-rooms. Organists and pianists are here to be found, and their movements in executing difficult and intricate passages leave nothing to be desired. Many other examples can be easily furnished, but, gentlemen, movements, either instinctive or acquired, whether we trace them in the elementary efforts of the chick as it picks at food in its first wanderings from its shell, or those of offence and defence in the carnivora, or observe the movements of prehension of the anthropoid, or find them culminating in man in the highly finished product of the artist who places on canvas a faithful reproduction of Nature as we see it around us, for all the varieties of movement there is a simple test, the application of which enables us to decide on its sanity. If the movement is incorrectly applied for the realisation of the end or purpose in view, whether in excess, showing lack of inhibition, or by inefficiency, thereby revealing feeble energising power, in either case we have a movement which is not sane or healthy. We

know, if there is pathological change taking place in the reflex arc, we shall have a corresponding paralysis. The movements of hemiplegic athetosis cannot be in any way considered sane; they are unhealthy and indicate trouble in the cortical reflex arc or its connections; they reveal an almost entire absence of inhibition. The ability to exercise inhibition over any variety of movement is a fairly good proof that the cortical relations are intact and operative, and also that the greater or less perfection of the movement, bearing in mind the object for which it is made, is indicative of a greater or less perfection in the physiological apparatus of cortex, cord, nerve, both afferent and efferent, and muscle.

Gentlemen, you have seen these movements; there can be no doubt that they fail to serve a sane purpose, and there is such an absence of inhibition as to clearly mark them insane. Is there any explanation for the origin of these movements? On examining the history of the patient most carefully we can find nothing which satisfactorily explains their origin. She was a lady's companion; her late mistress suggests that the motion of the hands was due to brushing of the hair, which she performed for her mistress every day most thoroughly. We cannot agree with this explanation, because the movement is of such a character as to prevent her getting satisfactorily at the hair, being, as we have seen, from below upwards. Whatever be the explanation, we have here an example of the necessity to energise described by Clouston. Let me give you a brief outline of the history of this patient. She came to Fisherton House in March, 1902; she had been in two other asylums, where her condition made no improvement—first the Virginia Water Sanatorium, and then the Borough Asylum, Portsmouth. The medical officers of both these institutions very kindly supplied me with notes on her case and progress while in their care. She comes of neurotic stock; her maternal grandfather committed suicide by hanging. There were eleven in the family; two of her sisters were queer in childhood, a brother died who was paralysed in infancy, her father died from pneumonia, her mother died from natural causes. She was engaged for seventeen years in the capacity above mentioned to a family in Hampshire, which she left on account of her health breaking down. I will give you, in the words of her mistress, a short description of her character while

there, which will show that to even an ordinary observer she was not entirely free from certain peculiar tendencies. Her mistress says : "As a rule she was very cheerful and enjoyed things and was interested in everything. Fond of reading and singing. She loved music, although she did not play any instrument. She said one day she wished she could hear some singing that would soothe her nerves. She was a very clever, intelligent woman, very thorough and conscientious in her work, most industrious, methodical, and scrupulously clean and tidy, both in her person and work. Very fond of flowers and gardening. Latterly she was constantly singing to herself; she also took to wearing very bright colours; she also spoke constantly about the Röntgen ray, wireless telegraphy and electricity. She was an extremely good woman; we were always great friends, but she eventually developed a marked dislike to me." She suffered from an attack of rheumatic fever when a child, and while in Hampshire from aphonia, panting and crying fits. These were much increased after a severe attack of influenza, from which she suffered two years before she left her mistress, and from which time she developed delusions of an exalted character, believing herself to be the Empress of China. She developed also hallucinations of hearing, carried on conversations with imaginary people, the King of Sweden being one. She also saw lights when there were no lights. Taciturnity and insomnia developed, and she was taken to the asylum. There is no history of alcoholism, love troubles, sun-stroke, injury to the head, nor was she unduly religious.

On admission to Fisherton House she had the delusion that she was the third person of the Trinity, said she was the only woman of the Godhead who suffered from heart disease, and insisted upon being called "Queen." Her hair on admission was commencing to turn grey. It is now almost entirely white. Examination of the chest revealed that the heart was affected by mitral disease with dilatation; the abdominal organs were healthy. These movements commenced in December, 1904, two years and eight months after admission, when she was forty-four years of age.

Now, gentlemen, in forming our diagnosis we have to consider movements of a choreic nature, paramyoclonus multiplex of Friedreich, paralysis agitans, disseminated sclerosis, hysteria, and spasmodic or convulsive movements. We may put out of

consideration the professional cramps, senility, exophthalmic goitre, the toxæmias, and the athetoses. In chorea major, or Sydenham's chorea, a succession of similar movements is the exception, and a unilaterality of distribution is the rule. The intervention of volition is futile in chorea; in this case the patient can stop when observed by strangers. Weir-Mitchell describes habit chorea, which tallies closely with the habit-spasm described by Gowers in most particulars, but it begins differently and the movements are less prolonged. The variable chorea of Brissaud is similar to these two varieties. Huntingdon's chorea is chronic and of life-long duration, but there is no limitation of the movements to a special division of the body; they spread from one muscle to another rapidly; the gait is "dancing and skipping by turns." This patient walks steadily with only a very slight stamp in her gait. Then there is the hysterical form of chorea in which the action is rhythmic and unilateral, except where the trunk muscles are involved; the movements are like those of a blacksmith with his hammer, and are termed "*choree malleatoire*." We can eliminate paramyoclonus multiplex, which appears usually after a sudden fright or emotion; the convulsions are chronic and irregular, and affect the trunk. They are not the movements of paralysis agitans, for the patient is remarkably well nourished, and the movements are free from tremor and confined chiefly to the upper limbs. We can eliminate disseminated sclerosis because of the absence of nystagmus and the scanning speech. The diagnosis of the mental disease precludes hysteria, and the movements have been too long in duration to result from a coarse lesion of the brain; moreover, the pupils are equal and the tongue is protruded straightly. There is no paresis, the movements reach a climax daily, and at the time of maximum intensity the knees are abducted and adducted synchronously with the arm movement. This can be explained by the law of the generalisation of reflexes; therefore it is clear that we can eliminate spasm.

Now, gentlemen, there remains for us to see the relation between these movements and obsessions. On recalling the history of the case it will be remembered that she suffered from influenza. Here was developed the soil in which, in addition to the insane history of heredity, we are most likely to find obsession. An organism lives, evolves, and adapts

itself only in proportion as it has the power of prompt assimilation and dissimilation according to the known laws of biology. Proper assimilation means the appropriation of the organic and inorganic elements that are advantageous or indispensable to life. Good elimination means the getting rid of extraneous elements that have penetrated into the organism, or of the products of dissimilation that are hurtful, or of no service to the living being. Wherever these conditions are not rigorously maintained life becomes impossible, or else it is poor, abnormal, and curtailed ; it is well known that there is a whole group of organic diseases in which this fundamental function is altered, and every one knows the importance that this conception has recently acquired in the development of human pathology. The processes of mental life follow similar courses. A well-organised mind must select and assimilate from amongst the numerous sensory factors those that will be serviceable for its development, and will associate with other psychic elements in order to constitute the more complex and higher mental products in which is summed up the concepts of the evolution and progress of the individual, as a unit in harmony with its environment. It must also eliminate those psychic elements that cannot be utilised for the purposes of mental life ; through a power intrinsic to its own organism the mind eliminates all that will not serve the final end of man as an individual and as a social unit. Of the millions of stimuli and impressions that impinge upon the senses and the perceptive senses of men reaching the threshold of consciousness not one is lost, and if only a relatively small portion of them should become a patrimony that can be made use of, ready always to be vivified and re-evoked into consciousness, the remainder will be eliminated and lie buried at the bottom of the great ocean of the unconscious, thence possibly to rise to the surface in some tempestuous or abnormal perturbation of the mind. In minds that are badly organised through morbid heredity or other degenerative influences, it may happen that the process of psychic metabolism is interfered with, and that a psychic component, destined to move transiently over the field of consciousness and to fall into the unconscious, remains in the mind and cannot be eliminated, just as it sometimes happens that some poisons develop in the organism or some substances introduced from without cannot be expelled, but

remain and accumulate in the organism. These psychic elements that have not been eliminated are obsessions. The existence of an obsession demands certain indispensable conditions, and these reveal the morbid character of the soil on which this evil growth germinates. These conditions are—first, excessive emotivity, and second, congenital or acquired weakness of the mental organisation.

In the case which I have already described to you we have the necessary conditions for the development of the obsession, and although the movements may be stereotyped, yet they resemble an obsession of the motor or impulsive variety in so far as they commence with an expression of anguish, run a course which finally brings content, and undoubtedly from our description of obsession represent a psychic motor element, which is parasitic on the mind and in which volition for the time being is in abeyance and replaced by automatism.

The most recent works and authorities all describe an obsession as being able to provoke a motor reaction. We know that hallucinatory troubles, errors of the affections, likes and dislikes, at one time fear or repulsion, at another time an unhealthy sensitiveness, were apparent in our patient's history. How can we explain the evolution of the motor obsession? There is a well-known example of the individual who, as he moved his arm one day, became aware of a cracking feeling at his shoulder-joint, and from the unwonted nature of the sensation emanates the notion that he must have some form of arthritic lesion. Renewal of the gesture is attended with the reproduction of the sound. A thought of a possible injury develops, and extends until it is an object of constant pre-occupation and becomes a fixed idea; under its malign influence the movement is repeated a hundredfold and with growing violence until it passes into the field of automatic action. It is typically functional in its repetition, in the association of desire and satisfaction; but it originates in an absurd idea, and is actuated by a meaningless motive; its range is exaggerated, its performance irresistible, and its reiteration pernicious.

We may thus regard motor obsession as an obsolete, anomalous function—a parasitic function—engendered by some abnormal mental phenomenon, but obeying the immutable law of action and reaction. With regard to the treatment of such cases as the above, the movements are best not interfered with,

unless a tendency to exhaustion exhibit itself, or loss of flesh occur, or the strength of the patient appear inadequate. The bromides and cerebral sedatives will be found the most useful medicines should the movements become much increased or pass into violence.

(¹) Paper read before the Salisbury Division of the British Medical Association on May 19th, 1909.

Some Suggestions as Regards the Origin of Modern Psychiatric Ideas, together with a Note of some Cases of Mania apparently due to Microbic Infection.

By R. R. LEEPER, F.R.C.S.I., Medical Superintendent, St. Patrick's Hospital, Dublin.

TO a gathering of physicians, each of whom is actively engaged in the treatment of insanity, it would be both impertinent and needless for me to enlarge upon the present-day position of our knowledge of clinical psychiatry. As you are aware, each new discovery in the laboratory of medical science has been seized upon, elaborated, and applied to the treatment of mental diseases or considered in connection with it. Unfortunately the laboratory workers exercise only too fully the ancient prerogative of doctors to differ, and their observations and the results of their researches are thus vitiated, and further research rendered all the more difficult and needful. If the dawn and full daylight of bacteriological science have impressed us with the all-importance to mankind of the infinitely little, may I be pardoned for stating that at the present time the importance of securing more unanimity of opinion amongst its competent research workers is infinitely great.

Studies of the hypothetical causation of insanity, metaphysical speculations with far-resounding phrases used in the description of mental states and suppositious entities of disease, have resulted often in practical nothingness. Many of the ardent classifiers and metaphysical writers on insanity have gone down to posterity as those described in the oft-quoted words of Lord Beaconsfield, "as mere unsophisticated metaphysicians inebriated by the exuberance of their own verbosity."

In the history of the world's literature it is abundantly

noticeable that old ideas reappear from time to time, and old conceptions of the causation of insanity are to-day dished up to us as something very new and startling. In this connection I think none present will refuse to admit that the provision of employments and useful occupations for the insane, the treatment of insanity by the administration of organic extracts, and the discovery of the rôle played by bacterial and bio-chemical toxins in the production of mental disease, must chiefly mark the advance in the curative treatment of insanity for the past decade. I shall hope to show you that some if not all of those ideas and conceptions of the causation and treatment of insanity were present to the mind of one who lived nearly two centuries ago, and whose master mind saw more clearly and deeply into the depths of human nature, its motives, vanities, and defects, than mortal man has probably ever done before or since. In our search after the origin of latter-day ideas as regards the insane, let us take up Swift's immortal *Tale of a Tub*; here we see written large this grave proposal, "an opportunity which he says I have long sought, for recommending to Sir E. Seymour, Sir C. Musgrave, Sir John Bowls, John Howe, Esq., and other patriots concerned," persons whom we may presume were of the status and possessed of those endowments and qualifications which would to-day be considered requisite in a Royal Commissioner, say, of the Feeble-Minded, "that they would move to bring in a Bill for appointing Commissioners to inspect into Bedlam and the parts adjacent, who shall be empowered to send for persons, papers, and records, to examine into the merits and qualifications of every student and professor" (*viz.*, the patients in Bedlam and the parts adjacent) "to observe with utmost exactness their several dispositions and behaviour, by which means duly distinguishing and adapting their talents they might produce admirable instruments for the several offices in a State civil and military, proceeding to such methods as I shall here humbly propose."

"If any student (in Bedlam) be seen tearing his straw piecemeal, biting his grate, foaming at the mouth, swearing and blaspheming, throwing his pisspot in the spectators faces, let the Right Worshipful the Commissioners of Inspection give him a regiment of dragoons, and send him into Flanders with the *rest*."

"Is another eternally talking, spluttering, gasping, bawling

in a sound without period or article. What wonderful talents are here misapplied. Let him be furnished immediately with a green bag and papers and his cab fare, and away with him "to the Law Courts. You will find another mentioned in *The Tale*, "gravely taking the dimensions of his kennel, a person of foresight and insight, although kept quiet in the dark, he walks duly in one place, entreats your penny with due gravity and ceremony, talks much of hard times and taxes, bars up the wooden windows of his cell constantly at 8 o'clock. Dreams of fires and shop-lifters and court customers and privileged places. Now what a figure would all these acquirements amount to if the owner were sent into the city among his brethren."

Describing a mincing, pretentious person, Swift says: "Behold the fourth is much and deep in conversation with himself, biting his thumbs at proper junctures with countenance chequered with business and design, and excellent in the art of whispering nothing, a huge idolater of monosyllables and procrastination, so ready to give his word to everybody that he never keeps it, one that has forgot the common meaning of words, but an admirable retainer of the sound. What a complete system of court skill is here described in every branch of it, and utterly lost with wrong application." Here we have the prototype of our modern ideas for providing our patients with suitable occupations. To-day we don't send our patients "into Flanders with the rest," but we hear of sending them to South Africa to ostrich farm, or to grow tomatoes, or dig up fortunes from the ground of the world's wildernesses, and thereby remove them "from Bedlam and the parts adjacent," or again among *their brethren* in the city. A modern Royal Commissioner could advise no more fit or better system of boarding out. If we look for a forecast of our present-day doctrine of internal secretion and the therapeutics which are based upon it, the writer of *The Tale* here again has forestalled us in his *Digression concerning Madness*. He first points out how mental states may be induced by disordered internal secretion, and instances the conduct of two Kings of France, Henry the Great and Louis Quatorze. At the risk of wearying you I shall quote his words:

"A certain great prince (Henry IV of France) raised a mighty Army, filled his coffers with infinite treasures, provided

an invincible fleet, and all this without giving the least part of his design to his greatest Ministers or his nearest favourites. Immediately the whole world was alarmed, the neighbouring Crowns in trembling expectation towards what point the storm should burst, the small politicians everywhere forming profound conjectures. Some believed he had laid a scheme for a universal monarchy ; others, after much insight, determined the matter to be a project for pulling down the Pope and setting up the reformed religion, which had once been his own. Some, again, of deeper sagacity, sent him into Asia to subdue the Turk and recover Palestine. In the midst of all these projects and preparations a certain State surgeon, gathering the nature of the disease by these symptoms, attempted a cure, and at one blow broke the bag, and out flew the vapour. Now, is the reader curious to learn from whence this vapour took its rise which had so long set the nations at a gaze? What secret wheel, what hidden spring, could put in motion so wonderful an engine?"

I have recently read that no man can tell whether his mental state in any one day is more affected by the conditions of the secretion of his liver, his thyroid, his pituitary body or of his generative organs. For we can assume that each and all of our glandular structures can affect our reason and normal mentalisation by the character and quantity of their secretion entering the circulation. Lastly, and more connected with the title of this communication, which hitherto you doubtless think has little to do with its matter, is the case of the toxic or bacteriological causation of morbid and unusual mental trouble also referred to by Swift, who, reading his own *Tale of a Tub* in late years and when in failing health, exclaimed : " My God, what a genius I had when I wrote that book." Referring to Louis Quatorze, he says : " The other instance is what I have read somewhere of a mighty king who for the space of thirty years amused himself to take and lose towns, beat armies and be beaten, drive princes out of their dominions, fright children from their bread and butter, burn, lay waste, plunder, dragoon, massacre, subject stranger, friend and foe. It is recorded that the philosophers of each country were in grave dispute upon causes natural, moral and political, to find out where they should assign an original solution of this phenomenon. At last the vapour or spirit" (which we now would call the bacillus

or producer of the toxæmia) "which animated the hero's brain being in perpetual circulation seized upon that region of the human body so renowned for furnishing the 'Western civet,' or *Zibeta occidentalis*" (*viz.*, the gluteal regions) "and gathering there into a tumour, left the rest of the world for a time in peace. Of such mighty consequence it is where these exhalations fix and of so little from whence they proceed, the same spirits" (or shall we say toxins) "which in their superior progress would conquer a kingdom, descending upon the anus concluded in a fistula"!

Here we have the cure of mental morbidity by the occurrence or production of an abscess described, and Dr. Lewis Bruce's researches and ideas seem but as the full expression and explanation of the natural mode of remedying morbid mentalisation, which was thought of by Swift when George the Second reigned. If one looks for a bacteriological cause for insanity, we find that recent investigators hold strongly to this view. In Scotland we have Dr. Ford-Robertson introducing us to his *Bacillus paralyticus longus* and *brevis* and his serum therapy based upon the conception that these diphtheroid bacilli produce general paralysis of the insane. Dr. Mott's views of the specific origin of general paralysis seem to be strengthened by recent investigation and experiments with the *Spirochæta pallida*. Unfortunately our old remedy for syphilis, mercury, strange to say, produces no result, even if administered (as I saw recently in a case so treated) in the early stages of the disease when acute mania was the only symptom, and before any of the paralytic or ocular symptoms were manifest. Whether the spirochætes are bacilli or parasites is still unknown, and with the discovery of their life-history we must look for advancement in the treatment of progressive dementia. Several cases of mania which I have seen in recent years presented symptoms which point strongly to a bacillary origin. Bianchi, of Naples, has isolated a bacillus and also the *Staphylococcus aureus* and streptococci and micrococci from cases of mania, and believes some of these bacteria to be pathognomonic. His observations have been confirmed by Kalzowsky and a number of Italian observers.

In the present state of bacteriological technique, with all its difficulty and exposure to error from accidental and undesired infection, one can hardly be expected to form very concrete

opinions. I have, however, seen many cases in which a bacillary origin seemed to be fairly clearly indicated, and regret that so few of us in this country study this branch of research in connection with mental disease.

In the cases of mania to which I attribute a bacillary cause, all were of sudden and apparently of otherwise causeless origin. All occurred in quite sober living people, in whose lives there was little of excitement. They had never been insane before, and were regarded by the members of their family as perfectly well in bodily and mental health until the startling outbreak of the maniacal attack. Time will not permit me to refer to all of these cases, but I shall mention three :

Firstly, a lady, æt. 40, unmarried, of a very rational and quiet disposition, living a quiet life in the country, suddenly, with no apparent cause, became violent to those about her. Promptly removed to a private hospital, she tore the wall-paper off her room, pulled down the electric-light fittings, and bored great holes in the walls. She was admitted to St. Patrick's Hospital on September 19th, 1908, in a condition of acute delirious mania. Her feet were swollen, her temperature raised, no sugar or albumen was present in the urine ; she vomited frequently, and her heart was dilated, with quick and rapid action. On October 1st I had her blood examined for the first time. A staphylococcus was obtained, but was considered by the pathologist as possibly due to a skin infection.

Red corpuscles 5,000,000 per c.mm., leucocytes 12,000 per c.mm.; films showed no abnormal corpuscles. Polymorphs 75 *per cent.*, lymphocytes 2 *per cent.*, eosinophiles 4 *per cent.*; a slight polymorphonuclear leucocytosis.

The patient developed an inflammatory swelling in the parotid region, which did not suppurate. This disappeared on October 14th. Her mental state was one of noisy excitement, shouting and laughing, and very incoherent. On December 5th she was much improved and able to do needlework and talk rationally, and ate and slept well.

On December 20th her blood was again examined and a slight leucocytosis was observed.

Although most careful observations were made no micro-organisms could be obtained from the blood, and this is interesting, because Bianchi notes that organisms are found in the acute

stages only of the disease and disappear in the later stages, exactly the converse of what we could expect to find if the bacteria were present as a result of the lowering of the vitality of the patient. In patients dying of the exhaustion of acute mania organisms have not been observed. This patient made a good recovery and was discharged on January 15th. Her case is of interest because staphylococci were found in the acute stage of her maniacal seizure and an accompanying leucocytosis, which disappeared gradually as she progressed towards recovery.

The second case is in many points similar to the first :

An unmarried lady, æt. 35, also leading a quiet, interested life in the country, was suddenly seized with acute mania ; admitted to St. Patrick's Hospital January 9th, 1909, very noisy and restless. She required the padded room at night, and she was constantly throwing herself about and tearing her bedding and clothes. Temperature normal. Full doses of sedatives failed to produce any sleep on one or two occasions. Her blood was examined on January 24th, when she was a little quieter, and slight leucocytosis was manifest.

On January 20th an abscess formed on the dorsum of her hand, and on the same day the maniacal symptoms disappeared and did not again recur, and the patient was discharged on March 3rd. Her time of leaving the hospital was delayed by the appearance of a small abscess on her heel, and a purulent discharge also appeared from her nostrils. Iron and arsenic were administered, and these symptoms entirely disappeared before her leaving. I regard this patient as having suffered from an attack of acute toxæmic insanity of bacterial origin.

I have had, for some years past, a lady patient under treatment on and off for attacks of acute mania. Her first attack was peculiarly sudden. At its onset she rushed out of bed into the street in her night-gown and was arrested and conveyed by the police to the station, they believing she was drunk. Admitted to the hospital she was acutely maniacal and difficult to manage. Although a lady of middle age and of sedate appearance when well, she spent her days in constantly dancing and skipping and shouting, and remained in this state for some weeks. An abscess formed upon her heel, partly, I think, due to her Terpsichorean antics, and almost immediately she became sane and collected. Having no friends

who were immediately willing to receive her again into their homes she remained for some time in the hospital before arrangements could be made for discharge, and she was sent to our country branch. There an examination was made of her blood and a very marked leucopenia was shown to exist. I based my opinion upon this that her recovery would not be permanent, and she shortly broke down again and was readmitted. This second attack was due to her physiological defences having broken down, and an old ulcer on her leg, which had recurred whilst she was away, being healed up, she rapidly got well and was again discharged.

I have little doubt that the bacterial origin of these sudden and apparently otherwise causeless attacks of acute mania will be clearly established within the next decade.

In the only case which I have had an opportunity of examining *post-mortem* (within forty-eight hours of the onset of her attack she burned herself to death in her own bedroom). I found an immense leucocytosis evident in both the meninges and cerebral cortex, and arranged in whorls round the cortical capillaries were quantities of micrococci. I regret no cultures were attempted or any blood examination made during life.

DISCUSSION,

At the meeting of the Irish Division held at Farnham House, April, 1909.

THE HON. SECRETARY alluded to symptoms suggestive of toxic influences in cases where insanity occurred as a morbid development of a patient's natural disposition, and where, therefore, the intoxication seemed more likely to have been the effect than the cause. Some time ago a German authority had published cases in which general paralysis had taken on a "galloping" character after a course of mercury. He wished to know whether Dr. Leeper had had any such experience.

THE CHAIRMAN remarked that it was difficult to understand how the blood-state could be so changed by the determination of the infection to a local focus as to bring the mental attack to an end.

Dr. RAINSFORD quoted the opinion of Dr. H. T. Bewley that if a case benefited by the administration of mercury it was one, not of general paralysis, but of syphilitic dementia. He himself, however, had seen a case of general paralysis which for six months had derived benefit from mercury.

Dr. LEEPER, replying, said that he had thought that treatment of general paralysis by mercurial inunction did harm, and he had given it up. He was unable to explain the sudden recovery after formation of an abscess.

Clinical Notes and Cases.

Obsessional and Impulsive Insanity. By JOHN R. LORD, M.B., Medical Superintendent, Horton Asylum, Epsom, Surrey.

THE following notes on a case of marked pyromania following a previous attack of kleptomania may be of interest to the readers of the Journal :

E. F. B—, æt. 23, was admitted to the Acute Hospital of this Asylum on the 28th March, 1908. She was a housemaid, single, a brunette of attractive appearance, whose height was 4 ft. 1½ in., and weight 7 st. 9 lbs. She was in good bodily health.

Physical examination revealed nothing specially noteworthy. Circumference of head was 52·5 c.m., and cranial index 80·5. Her eyes were somewhat widely separated (3·5 c.m.), but otherwise there were no anthropometric abnormalities. Her motor and sensory systems were quite normal. There were no signs of hysteria.

Family history.—Her grandfather (paternal) died insane, and her grandmother (paternal) was stated to have died at sixty from “softening of the brain.” An uncle had also been insane. Patient’s father died at forty-six from pneumonia, but her mother is still living and in good health.

Personal history.—She was born at full time. Her mother had three girls in succession, followed by two boys, a girl, a miscarriage, and then a girl, who only lived an hour. Afterwards she had another miscarriage, then the patient, followed by a miscarriage, and finally a boy. The patient cut her first tooth at seven months, commenced to talk at twelve months, and to walk at fourteen months. She was educated at an ordinary school, and learnt fairly quickly, leaving school at thirteen when in the seventh standard. She was, however, always a little weak-minded and emotional, which became more marked at adolescence and afterwards, but has never amounted to imbecility. She never had any fits or other nervous disorders, except violent periodic headaches. Morally, she has been quite good with the exception of a tendency to prevaricate. She menstruated when fifteen years of age, went to work at sixteen, and has had five situations up to the date of admission.

First attack—kleptomania.—Somewhere about in her twentieth year she took a situation as draper’s assistant, and when there began to have irresistible impulses to steal small sums of money—pennies and small silver coins, also articles of wearing apparel. She had no particular need for the money, and the other articles she did not need, neither did she wear them. She had no voluntary wish to steal, but an involuntary feeling or idea she had to, and “nothing would help her.” She did not feel, however, that she was doing anything particularly wrong. She had no feeling of pleasure in the acts nor any sense of relief afterwards. Often the idea would come one day that, on the

next day, she would have to take something, and when the next day came she would be quite unable to resist the impulse to steal. Probably on the next day the opportunity was greater. Finally, she was suspected, caught, and discharged. The impulse to steal then disappeared, and has not returned since.

Second (present) attack—Pyromania.—During the three years following this she was employed as a housemaid, and had two situations, in both of which she apparently gave satisfaction, her mistresses being relatives of each other. She was recommended from one to the other, and left her last through no fault of her own. Curiously, when at these places, a fire occurred at both, but her employers are stated to be convinced that the patient was not the cause of either. The patient herself strongly denies that she was guilty, but I think it possible, even probable, that she was. However, about the end of November, 1908, she left her last situation, and went to live with her widowed sister, a dressmaker. Patient states that, after being there a few days, an uncontrollable feeling or persistent idea came over her that she would have to set fire to something. She had no longing for it, but she felt that, sooner or later, come what may, she would have to do it. She became anxious and miserable, but concealed her feelings and impulses. After about a week of this, during which she menstruated, she set fire secretly to a curtain covering a box on the staircase landing, and during a period of seven days she originated in her sister's house no less than eleven fires, which all occurred during the day, one of which was serious enough to necessitate the local fire-brigade being called in. She used matches on most occasions, but once she scattered burning cinders over the oilcloth covering the staircase. She deceived her sister during the whole time, but at last she was suspected, asked about it, and reluctantly confessed. She then threatened to drown herself, and was taken to the infirmary.

She states that she derived no pleasure from her incendiary acts, nor feeling of relief afterwards. She can give no reason for such impulses arising in her mind. Nothing prompted or told her to do them. She had never heard or read of such things happening to anyone else. It was an irresistible feeling over which she had no control. She had no strong sense that she was doing wrong, though she knew she was not doing right. She was very angry when found out, and has had no return of the impulses since.

Mental state on admission :

She had normal cognition of her surroundings without any defect of orientation.

Her attention tended to stray. She was a little dull and retarded, but coherent ; of fair reasoning powers and judgment.

Her memory was really good, but she tried to conceal the facts regarding her pyromaniacal attacks.

Education was average. There were no hallucinations or delusions. Her impulses did not occupy much of her mental contents.

She was a little depressed and emotionally dull.

Morally she had not a deep affection for her relatives. Religious feeling was practically *nil*. Truthfulness poor, but sense of propriety was good. No defects or perversions sexually.

After much pressing she finally admitted facts given in her personal history.

Progress.—She rapidly brightened up ; soon began to employ herself and to interest herself in her surroundings.

She denies any return of impulses, and there has been no evidence of such. No other impulses have appeared. She continues well behaved, rational to talk to, and of nice manner and disposition.

Diagnosis.—The case illustrates the complicated psychology of obsessions, compulsive thoughts, and morbid impulses. Objection would be taken to classifying her as an obsessional case, yet she was clearly beset by a mental product prior to any outward manifestation or motor translation.

Most alienists would say that she was suffering from Impulsive or Aboulie Insanity. It depends what is understood by these terms. Impulsive or Aboulie Insanity is commonly taught to be a defect of the will or volition, the impulse being either too strong or the will power too weak. Impulsive Insanity should, in my opinion, only be applied to those cases in which occurs a sudden impelled act—a psycho-motor explosion—with little or no ascertainable regard to any idea or feeling.

An obsession is any morbid mental product which dominates the mind and cannot be relegated to sub-conscious spheres and absorbed into the personality, and which paralyses to a varying extent inhibition, from reason or instinct, of the motor or sensory counter-parts. The mentalization which allows of or produces the psychic product is primarily at fault and not the volitional spheres. This is in effect Bianchi's teaching.

An obsession may be either an idea, fear, desire, motor act, or an instinct. Each is, however, to some extent associated with one or more of the others. The chief point is the unwelcome prominence in the mind generally.

A division into Compulsive and Impulsive Insanities is unsatisfactory, there being so many cases which have characteristics of both.

I think those cases in which the obsession or succession of obsessions slowly invades the whole mentalization in spite of treatment, and which ultimately leads to disintegration of the personality, should have a special designation such as "Progressive Obsessional Insanity." Others, in which there is no such tendency might be called "Simple Obsessional Insanity," while those cases in which the predominating mental product

is chiefly a psycho-motor excitation should be termed either "Impulsive Insanity" or better "Motor Obsessional Insanity."

Ætiology.—The chief factor was undoubtedly the psychopathic heredity which showed itself primarily in an unstable and somewhat weak mental development. Another factor of some importance must have been the physical exhaustion of the mother entailed by rapid and numerous pregnancies. Including the patient, she had eight children and two miscarriages within fourteen years. A miscarriage occurred both before and after the patient.

Prognosis.—It is extremely unlikely that this is the last attack, but it would be interesting to know the nature of the next impulse and how soon it will occur. The prognosis is very grave. An interesting question will eventually arise, unless further symptoms develop, as to whether she can legally be kept in an asylum.

Her secretiveness and deceitfulness almost suggest latent criminal tendencies, and the dividing line between obsession and criminality must often be very indistinct.

Clinical and Pathological Notes.—III. By Dr. M. J. NOLAN, Resident Medical Superintendent, Down District Asylum, Downpatrick.

CASE 8.—*Disseminated sclerosis; hydrocephalus; epilepsy; extreme tenuity of skull; dementia.*

W. M.—, æt. 29, admitted to asylum October 28th, 1903; died January 6th, 1908. Patient had no family history of insanity or allied neuroses. He led a steady, regular life, married early, and worked mainly in coal-pits. About fifteen years ago—when he was fourteen years of age—he fell on his head and was unconscious for several days, and ever afterwards complained of pain in his back. Ten years later, and four years prior to his admission, he got a fit, and immediately preceding it he said to his wife that he felt the pit to be falling in on him. From that time to date of admission the fits recurred at irregular intervals, he became gradually spastic in gait, and his temperament varied from dulness to marked irritability, and his mental faculties became obscured. He was then treated in the Union Hospital, and finally became so violent that he was removed to the asylum.

On admission the following particulars were noted: Body well-nourished; weight 12 st. 4 lb. Expression fatuous. Pupils irregular and eccentric, reaction to light and accommodation normal; nystagmus. Exaggerated knee-jerks; gait spastic; volitional tremor. "Scanning" speech; mental state dull and confused; irritable when questioned.

No knowledge of epochal life events, time, or locality. Subsequently the fits—epileptiform in character—recurred at frequent intervals. He became steadily more feeble in body and mind. At times complained of "a weakness of the spine." Locomotion became more difficult; he could take little exercise, and increased in weight to 13 st. 6 lb. In October, 1907, the fits increased in frequency, and so affected him that it became necessary to confine him to bed. This was the beginning of the end. A month later he had bladder troubles, and developed enormous bullæ on left hand, left ear, ankle and hip. Later still his right elbow-joint was the subject of the typical Charcot syndrome of spinal arthropathy, and he died on January 6th, 1908.

Post-mortem examination.—Heart enlarged, dilated, and infiltrated with fat. Lungs large, heavy, firm, and deeply mottled with pigmentation, showing an advanced stage of anthracosis. Liver congested. Spleen enlarged (weight, 10 oz.), and mottled with melanotic spots on surface and on section. The skull was at once remarkable for its size and the extreme thinness of the bones, so thin that in the temporal region it was easily pricked through with a pin, and when later divested of its coverings it was found to be quite translucent. On the base of the skull the natural land-marks were much accentuated, and the ridges in part were spiculated. The brain weighed 43 oz., the membranes adherent, and the ventricles dilated, causing flattening of the convolutions; a great excess of fluid about brain and in ventricles. The spleen's capsule was thickened, and the organ was the subject of general fibrosis.

Microscopic examination showed no marked change of the pulp or corpuscles, but the vessels in many places showed thickened hyaline walls.

Observations.—The case would seem to be of interest in regard to the following points:

(1) The history of early cerebral injury, and its possible association with the subsequent development of organic cerebro-spinal disease.

(2) The extraordinary thinning of the cranial bones as the result of pressure and absorption.

(3) The advanced anthracosis in so young a subject, and the melanotic pigmentation of the spleen.

(4) The very early and progressive dementia following the first epileptiform seizures; and the psychical aura of the latter reflecting a subconscious daily apprehension.

CASE 9.—*Intra-cranial tumours; endothelioma; epilepsy; optic neuritis; staccato articulation; dementia with exaltation.*

J. A—, æt. 61, admitted to asylum June 21st, 1902.

Patient, a single woman, lived all her life with relatives, and enjoyed good general health up to two years ago, when her brother died suddenly in her arms. She then had a "weak attack," and since then had

various syncopal attacks, due, it was supposed, to her diseased heart—as she suffered from mitral regurgitation. Her general health began to fail, she lost sleep and memory, and it became necessary to treat her in hospital. Then she became delusional and so troublesome that she was transferred to the asylum.

On admission she was in a state of nervous excitement, very garrulous, emotional, expansive, and delusional. She could not be kept from talking of property she had been deprived of, of her great expectations, and her generous intentions. Her memory for recent events was very bad, and of remote events somewhat better; but in reply to questions she rapidly became incoherent and wandered into vague reminiscences of early life.

For six months subsequent to her admission she was quiet, cleanly in habits, and capable of sewing a little. At the end of that time she had an epileptiform seizure, after which she was dull and irritable, and distinct persecutory delusions became prominent. Though she ate and slept well she lost weight. A few weeks later complained of lightness in her head, and she developed some paresis of her left arm. About this time she began to lose the sight of her right eye. The fits recurred at irregular intervals. She complained that her head was open in two places, and sat patting it in a searching manner, as if fearing to come suddenly or roughly on the open spaces. She also complained of the increasing blindness. Her delusions again became grandiose—she spoke much of her wealth, social position, and benevolent projects. At the same time she persistently stated that no one would ever see her die, as she would pass away in sleep. Her deafness and blindness rapidly increased, she became noisy and destructive, then feeble and filthy, and passed away as she had anticipated, in sleep, subsequent to repeated epileptiform seizures.

With the exception of the two tumours (exhibited) there was nothing of special interest in the pathological conditions as revealed in the *post-mortem* examination. The larger of the two was distinctly spherical in shape, the size of a small orange, and weighed 100 grms. It was found on the left temporo-sphenoidal region, well encapsuled, and adherent on the outer surface to the dura mater and to the inferior angle of the parietal bone. It measured 3 in. in its longest diameter and over 7 in. in circumference; on section it was firm and tough.

Microscopic examination showed that it was of spindle-celled tissue arranged in well-marked concentric arrangements of cells around small blood-vessels, and contained many calcified psammoma bodies. It was well encapsuled. The smaller tumour was small and vascular looking, the size of a pigeon's egg, and sprung from the optic chiasma region. It was somewhat kidney-shaped, weighed 12 grms., and measured $\frac{3}{4}$ in. in shorter and $1\frac{1}{2}$ in. in longer diameter. Microscopic examination showed it to be of practically the same structure as the larger tumour, but the cells were not so elongated and the vessels were more abundant. Endothelial and perithelial proliferation in connection with the small vessels could be seen at the edges.

The tumours sprang from the pia-arachnoid and did not directly engage the brain tissue.

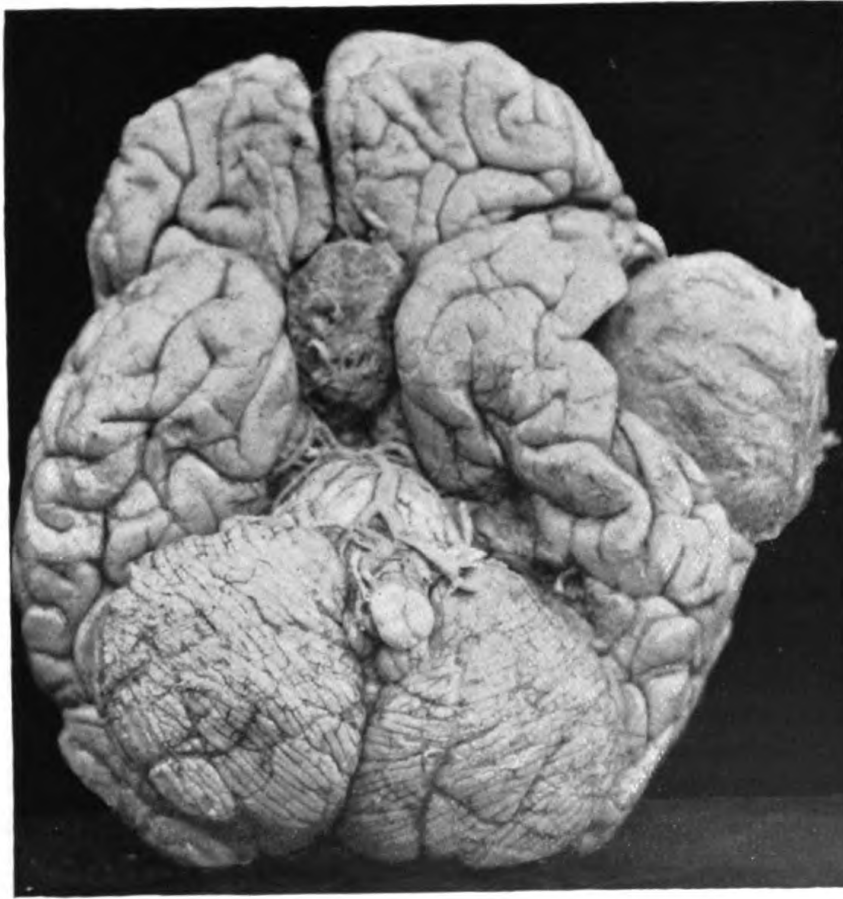


FIG. 1.—CASE 9. J. A.— Endothelial tumours of left temporal sphenoidal region and the optic chiasma.



FIG. 2.—CASE 9.—J. A.— The encapsulated endothelial tumour of left temporal sphenoidal region removed from its position.

To illustrate Dr. M. J. NOLAN's paper.

Observations.—It is of interest that the two prominent physical symptoms, tremor, and speech disturbance, combined with excited reflexes, were the same in this as in the preceding case, and that in the two cases there was intra-cranial and intra-spinal pressure due to entirely different causes. How far the pressure caused these symptoms is a matter of some speculation. The special sense and local symptoms were, of course, accounted for by the individual conditions involved in each case, as well as the epileptiform seizures which were manifest. The early dementia in the one case and the late exalted delusions in the other afford also an interesting contrast of psychical disturbances from association with organic disease.

And in view of such grave morbid changes and growth—in themselves beyond the reach of physicians' or surgeons' skill—it must strike one how absurd it is to level charges of non-progress in the successful treatment of mental disease, which experience shows is so often merely associated as a symptom with organic and incurable disease. Many such cases are no doubt recorded as cases of "epileptic insanity," and as such swell the bulk of a class for which curative treatment is sought in vain. The epilepsy and the insanity are but the concomitant symptoms of gross disease of the great nervous system.

In Case 8 the psychical condition was one of gradual stupor, following on the acute mental failure ushered in by a fit; in Case 9 the acute mental failure, marked by recurring fits, was of an hallucinatory type, and the stupor, so often stated to be one of the chief clinical symptoms of brain tumour, was never in evidence until it followed the group of fits which immediately preceded her death.

Occasional Notes.

Delayed Lunacy Legislation.

The prospect of lunacy legislation in the present Session is almost hopeless, but the "deferred hope" should not have the saddening effect on this Association which is usually supposed to result from such an emotional state.

Ten years ago the then Lord Chancellor introduced a Bill, which, with slight modifications, has been reproduced annually since, and still it is not law. The slow process of recognition of public needs that characterises our legal administration makes it certain that several years of effort must have elapsed before a Lord Chancellor could have been moved to attempt legislation, and his action is proof positive of the need having been both urgent and imperative.

Legislation that is of the utmost importance to a large body of suffering humanity has therefore been deferred for some fourteen years, and many can remember that the previous Lunacy Act took fourteen years to pass.

The reason for this protracted delay and neglect of matters most important to the social welfare of the country is not far to seek. The party strife and bickerings in the House of Commons, occupying the major part of the time, and even more of the interests of its members, are responsible. That such delay and neglect should be possible in a country that prides itself on its common sense and practicality is certainly monstrous. There must assuredly be something "rotten in the State" that admits of such scandalous and cynically callous indifference to social welfare.

The Medico-Psychological Association is to a very large extent the representative as well as the custodian of the welfare of the insane in this country. Are its members fulfilling the duties of this position in tamely submitting, year after year, to this neglect of the helpless class for whom they are responsible? Can they take no action to right this wrong?

Many of the legislative reforms needed for the care of the insane have been already endorsed by a Royal Commission, so that the neglect to carry them out is a direct affront to the Crown, by whose authority such Commissions are appointed. This affront is none the less real because it has unfortunately become the habit of Parliament to neglect and over-ride the findings of such Commissions. This, however, is an additional reason for effort, and suggests that the most effective line would be to urge the appointment of a Royal Commission to inquire into the reasons of the incompetence of the House of Commons in fulfilling its functions.

Many other interests in the country are suffering as lunacy is suffering, and the action of this Association would very

probably be imitated by the aggrieved interests. Such an inquiry might possibly lead to some amelioration of the excess of party spirit, which for many years past has been growing in intensity, and threatens as the years roll on to become more potent and dangerous.

Spiritual or Faith Healing in Connection with the Church of England.

The fact that the Central Council of the British Medical Association has appointed a Committee of Inquiry on the above subject, after an approach to the Bishop of London, is a matter for sincere satisfaction.

In the report on the progress of psychiatry in America, in the April number of this Journal, the evils resulting from the "Experiment on Practical Religion," in connection with the Emmanuel Church at Boston, were described. They give a very unhopeful view of the practical results of such treatment by untrained minds.

The beneficial results arising from the substitution of faith and hope in place of doubt and dread have been known in all ages, and have been demonstrated by a never-ending succession of quacks and excitements, religious and otherwise. They in many instances act either by inducing a state of emotional exaltation or by some degree of induced stupor, rendering the person more suggestible—conditions that cannot be considered wholly favourable to mental health, and which, indeed, often leave an unsatisfactory mental impress.

It is unfortunately too often forgotten that faith and hope may also be induced by reason and knowledge, and that the cures thus effected are much more satisfactory than those effected through emotionalism and stupor.

The process of convincing many of the hysterical and hypochondriacal type of persons for whom this mode of treatment is especially demanded requires much more time, energy and patience than many physicians are prepared to give, even if they recognise the presence of the condition demanding it. Hence it is that in many cases in which the disorder is protracted the patients have recourse to procedures that give them relief, and the quack scores, from the inadequacy of the qualified physician.

Those physicians who have the patience and determination to convince the reason of their patients and to establish utter confidence, find their treatment more completely successful than are the unreasoned beliefs established by mysterious quackeries, by religious or other emotionalism, or by the more or less illusional states of suggestion from induced stupor.

Quackery.

The rampant quackery branded by whole-page advertisements on many of our leading newspapers constitutes a most sinister comment on the mental capacity of the community and on the morality of the Press at the present time.

The owners of these newspapers, many of which pose as leaders of morality, not only aid in the propagation of falsities calculated to produce wholesale injury to the health of the public, but also through those advertisements share largely in the profits of the swindles to which they are accessory.

These quack advertisements yield a revenue calculable in tens of thousands of pounds to the newspapers, and it is not to be wondered at that such a bribe should be accepted for services which, however wrong and injurious to the country, are yet quite legal.

The Medico-Psychological Association probably learns more of the evils of drug habits and other quackeries than any other branch of the medical profession, and should be prominent in the movement to urge on the Legislature the desirability of checking these scandals on the legal lines that have been found so effective in Germany.

An additional suggestion might be made that, in addition to a censor of plays, a censor of advertisements should be appointed, whose duty should consist in prosecuting both quacks and publications that uttered statements, obviously false and misleading, calculated to injure the public health.

Asylum Officers' Superannuation Bill.

Sir William Collins has added to the very considerable debt of gratitude which is due to him from all concerned in

advancing the treatment of insanity in this country by the Superannuation Bill for Asylum Employés, which he has introduced in the House of Commons.

Whether this Bill will become an Act in the present stormy aspect of parliamentary affairs is still doubtful. The hope of a Session freed from the more extreme forms of party preoccupation is gone, and with it much of the opportunity for minor legislation.

Whatever the fate of the Bill the main fact will remain that the members of the Medico-Psychological Association, after very many years of discussion, have at length arrived at the almost unanimous agreement that the provisions embodied in the present Bill would be acceptable, with some modifications, not only in England, but in Ireland and Scotland.

That this has come to pass is a tribute to the long-continued exertions of our Parliamentary Committee, to which, as well as to Sir William Collins, the Association owes a sincere expression of thanks.

The Library of the Association.

The Library still demands the assistance of the members of the Association to make it of real use. The means and space at the service of the Library do not admit of any endeavour at a complete, or even an extensive, collection of works relating to psychiatric medicine. The number of books dealing with the subject in a more or less systematic manner is very great, but only a very few of them are of lasting value, due to any originality of observation, classification, or other characteristics constituting a real advance in knowledge.

The means of the Library would fully admit the acquisition of the chosen few, but periodical literature and that relating to original observation is of far more importance to those who are engaged in practical work or in scientific investigation. This would seem to be the field which is especially open to the Library. Members of the Association probably take or receive copies of the literature of every piece of scientific research or of every journal relating to psychiatry, and very many might contribute these to the Library.

This is the literature of which members in institutions

remote from easy access to libraries have most need, and for which there is a demand that the Library cannot at present meet. It is very desirable, therefore, that all possible contributions of literature of this kind should be made.

The question naturally suggests itself whether the time has not arrived when some more extensive effort could be made, and a more comprehensive scheme devised, whereby the members of our specialty could have access to a really complete bibliographical collection of works in which they are interested?

Why should not the asylums of the whole country combine to this end? The Scottish asylums have already combined for pathological work. Every asylum has its own library of greater or less extent, in which probably a large number of works are many times re-duplicated.

Why should there not be a co-ordination by which each asylum should undertake to provide certain literature or make certain contributions to a general fund for a central library or libraries, organised so as to be accessible to all medical members of asylum staffs?

Such conjoint action if practicable would require considerable time to organise, and still more in obtaining the agreement of the various bodies interested. In the immediate future it is desirable that the best use should be made of that which is already in existence, to make it a possible nucleus of a future British Library of Psychiatric Medicine.

Part II.—Reviews.

Mind and its Disorders: a Text-book for Students and Practitioners.

By W. H. B. STODDART, M.D., F.R.C.P. With illustrations. 8vo. London, 1908. Price 12s. 6d. net.

Dr. Stoddart has written a book in order to induce his readers to think neurologically of mental processes, his clinical work having been largely a research into the nature of nervous phenomena associated with mental disorder. His results in this field have been given to the profession to a very considerable extent, and Dr. Stoddart now formulates them systematically relative to normal and abnormal mental conditions. It has long been recognised that any study of insanity must be based upon a knowledge of psychology—that is to say the

anatomical and physiological conditions of health are properly the preliminaries to a scientific knowledge of the pathological concomitants of disordered minds. Dr. Stoddart, in accepting this common proposition, proceeds to devote ninety-seven pages to a brief synopsis of normal psychology, introduced by an explanation of the neuron theory, which commands his assent. We do not discover from his pages that this theory has been rendered doubtful already, and that the conjectures based upon it remain conjectures still. That, of course, is the danger of "thinking neurologically" while our science remains in a highly mobile state. We suggest that Dr. Stoddart should have written provisionally and tentatively, granting that the student dearly loves a firm opinion. This condensed and clear statement of his opinions, founded on extensive reading and personal observation and thought, serves as an introduction to the second part of the volume, which deals with the psychology of the insane; it extends to fifty-seven pages, and treats of disorders of sensation, perception, association of ideas, emotions, conduct, and judgments. Dr. Stoddart, while holding that the delusions of the insane are of little diagnostic value, urges that the physician should always endeavour to determine how the delusions have arisen. He believes that the predisposing cause is the mood of the patient, and that the most frequent exciting cause is the existence of hallucinations. On a previous page we read that hallucinations occur in about 70 *per cent.* of the insane, but that is surely a statement unsupported by common experience. No doubt it has been observed that hallucinations are the precursors of delusions in certain cases, but we doubt if their genesis is to be so easily accounted for.

Again, the author writes of the cortical paralysis of melancholia causing a retardation of the flow of ideas. Is there, then, a true paralysis of the cortex which cannot be discerned by the ordinary tests applicable to what we speak of ordinarily as *paralysis*? It is a commonplace to speak of the rigidity of melancholia, the resistive stiff-neck of the melancholiac, but we do not gain information but rather confuse the issues when we direct attention to a symptom of "functional" import and call it by the name of a symptom of an "organic" destruction. Perhaps Dr. Stoddart might be inclined to soften his *paralysis* into *paresis*.

The concluding part with appendices on stains and cytological examination of the cerebro-spinal fluid occupies 333 pages, so that the bulk of the volume is referable to mental diseases. It is curious to find that the examination of the cerebro-spinal fluid is accounted sufficiently important to find separate space, while the only references in the index to blood are traced to a meagre mention of the count in dementia præcox and two quotations regarding pressure. Similarly, recent work in the laboratory is overlooked, perhaps because of Dr. Stoddart's declared plan of "ignoring the honest labours of some writers" because of the classification used and their insufficient description of cases.

Let us see what classification Dr. Stoddart prefers. Briefly, it is Kraepelin's, with some difference. Beginning with maniacal-depressive insanity, it proceeds to the exhaustion psychosis, dementia præcox, general paralysis, epileptic insanity, alcoholic insanity, other intoxication psychoses, senile dementia, paranoia, psychasthenia (by which we are to

understand irresponsible thoughts, fears and impulses), neurasthenia, hysteria, organic brain disease, idiocy, thyroid gland disease, other neuroses (insanity and chorea, etc.), mental disorder with visceral disease, and combined psychoses. This is the last word in adapting Teutonic notions to English psychiatry. No doubt such an arrangement permits of neurological thinking, but does it advance our science by a systematic investigation into the pathological facts? Does it clarify our thinking to begin with periodic insanity as the first great class, and then to proceed to that elusive entity confusional insanity, which may go on to prove intermittent if not periodic, and to follow with that still more doubtful quantity, dementia præcox? We suggest that these may all be toxic diseases, and that our labours should be devoted to the determination of these toxins and the discovering of appropriate methods of combating them. We make due recognition of Dr. Stoddart's long and careful study of symptoms, but we desire to pass from the obvious to the essential. The treatment of symptoms, and the application of general rules of medicine to a case of myxœdematous insanity are not sufficient; the remedy lies in the exhibition of the exact therapeutical necessity for the underlying pathological condition. No doubt, Dr. Stoddart has declared that nervous shock and similar "causes" occasion insanity, and supply a severe criticism of the view that insanity is always due to a toxin circulating in the blood. We have not met the extremist who holds that opinion, but we cannot accept the author's dictum until he has demonstrated cases following on nervous shock as the sole indubitable cause.

Not that Dr. Stoddart has omitted consideration of toxic processes, but his position in that respect is so peculiar to himself that we cannot omit a brief reference to it. He, in short, supposes that the essential toxins are primarily within the neurons and not primarily in the general circulation. Royalty was puzzled to know how the apples got inside the dumpling, and it may be that Dr. Stoddart can explain how the toxin is to be found primarily inside the neuron; how it is developed, and from what it is developed; if there is but one toxin or many—for we may well suspect mixed infections. Meanwhile the problem remains as stated. Our author will not blame a peccant colon, because that would mean the necessary enlargement of asylums by ten times. Do not men and women harbour the bacilli of diphtheria and typhoid and yet show no sign of either disease? Or does he deny that these diseases are due to those germs? To be sure such a denial has been made in reference to tuberculosis, notwithstanding the proofs of the specific bacilli and the opsonic test, and similarly, it may be denied that the observations of Dr. L. C. Bruce on the microbes separated from various fluids of the insane are of the least importance. The meagre reference to Dr. Bruce on p. 233 is apparently indicative of mistrust, although there is no reason why his observations should not be repeated by any competent observer. Meanwhile Dr. Stoddart's theory is based upon Dr. Hughlings Jackson's supposition.

Looking for some guidance in prognosis, we find Dr. Stoddart's opinion that it is ominous when the first symptom of insanity is a change from a lower form of religion to Roman Catholicism. This is

hard on Jesuit missionaries in far Fiji—if, indeed, the Fijian religion is a lower form. In this, and his reference to spiritualism immediately following, we again discern the undue importance of the mere symptom—the accident of the disorder. And so we take leave to doubt if Dr. Stoddart really is what he asserts—“a curse to posterity”; for ourselves we deny the soft impeachment.

When he writes of indoxyl being found in the urine of melancholiacs, Dr. Stoddart should explain that it is a mere concomitant of constipation, and that chemical symptom is, therefore, of no significance relative to the mental condition. His experience of veronal is singularly unfortunate; it has hitherto escaped our notice that veronal induces vomiting.

Dr. Stoddart records an extraordinarily low mortality in acute delirious mania; only 25 *per cent.* of his cases died of exhaustion, and apparently only one became permanently weak minded, but those “clinical entities” are as evasive as their arithmetic, *e.g.*, on p. 254, Kraepelin is quoted: “Of katatoniacs 86 *per cent.* reach extreme dementia, 27 *per cent.* are partially demented, and 13 *per cent.* recover at least temporarily,” making the Teutonic percentage 126.

We have given considerable space to this notice of Dr. Stoddart's work, because it raises numerous questions of importance at the present time, questions which incite discussion; and because it is a record of personal opinions which have been frankly stated after years of clinical observation; and because these opinions call for our consideration whether we assent to them or no. In short, the book arrests attention.

Outlines of Psychiatry. By WILLIAM A. WHITE. 8vo. New York, 1907. Price \$2.

Professor White, of the Government Hospital for the Insane, Washington, D.C., issues this guide to his students in order to enable them to follow his lectures more easily and satisfactorily. A brief psychological introduction is followed by his definition of insanity: “A disorder of the mind due to disease of the brain, manifesting itself by a more or less prolonged departure from the individual's usual manner of thinking, feeling, and acting, and resulting in a lessened capacity for adaptation to the environment.” Proceeding to the consideration of classification, causes, and treatment, Professor White sets forth his teaching after the manner of Kraepelin. It is another instance of America swallowing Kraepelin whole, as a compatriot has observed. Strange words are freely used—“autochthonous,” “haptic,” “carphologia,” “aprosexia” are among the gems, and the student will have to distinguish between “active” and “passive algolagnia” before he concludes his course. Your reviewer copies them with wondering awe. Can it be that America will really assimilate them?

As to the matter of the book, considered from the student's point of view there can be no doubt it is well and clearly set out. Professor White has given a wide and comprehensive account of his subject, especially impartial in his short discussion of the causes of insanity,

and unequivocal in his clinical observations. We congratulate him on his excellent chapter dealing with the examination of the insane, and feel that the whole book appeals to a much wider circle than that which originally benefited by it. Notwithstanding brevity, it will be found especially useful to those who desire to know what the new classification means and who find more formidable works and lengthy monographs impossible. The printer has done his part admirably.

Mental Deficiency (Amentia). By A. F. TREDGOLD, L.R.C.P., M.R.C.S. Illust., pp. 17 + 391. 8vo. London, 1908. Price 10s. 6d. net.

This work comes at an opportune time when mental defect is the subject of serious discussion in view of the recently issued Reports of the Royal Commission on the Care and Control of the Feeble-minded. Dr. Tredgold's experience as Research Scholar in the Claybury Laboratory has stood him in good stead in the preparation of this admirable book, which shows his intimate knowledge of the pathological, clinical, and social aspects of his study.

Beginning with a general consideration of that mental condition which signifies a failure in normal development, Dr. Tredgold discusses incidence, causation, pathology, classification, physical and mental characteristics, clinical varieties, diagnosis, prognosis, and treatment. The result is both interesting and important, and, as the work is fully illustrated by drawings, photographs, and charts, there can be no doubt that it will be generally regarded as indispensable as a trustworthy guide to the most recent scientific and sociological findings in this department of humane activity. It is noteworthy that the author attributes to the neuropathic heredity the principal rôle in the causation of amentia, and that he has founded his classification of cases on that of Dr. Ireland. Like the great majority of recent authorities he believes that injuries at birth are not important causal factors.

It seems scarcely necessary to give a long account of a book of this kind, which should be read and referred to by all who are called into relation with the mentally defective. Several of the chapters are specially valuable; for instance, those dealing with pathology, diagnosis, prognosis, treatment and training. With a vivid recollection of former work in this field, Dr. Tredgold impresses us most favourably.

Britain's Blot—Recidivism, Habitual Criminality, and Habitual Petty Delinquency. By J. F. SUTHERLAND, M.D. 8vo. Edinburgh, 1908. Price 3s. net.

The Deputy Commissioner in Lunacy for Scotland has issued this book, which is the outcome of four articles published in this Journal, and it is certainly desirable that the experience of so many years in lunacy, inebriety, and delinquency should be thus rendered easily accessible. There has been an unfortunate lack of contributions dealing with these problems in this country of late years. Penology is not

brought up to date on this side of the English Channel. We therefore are glad to welcome Dr. Sutherland's monograph and to commend it to the attention of all those who are interested in criminality. The public administration is still defective and erroneous in its methods, and it is well that there should be a clear and authoritative account of the present conditions. We hope that Dr. Sutherland's monograph will stimulate reformers to obtain newer and more rational information as to crime and criminals, and to proceed to more effective methods of dealing with them. He has done his part in a systematic presentation of the questions which now arise, and we commend his book to his fellow-citizens.

Grundriss der psychiatrischen Diagnostik. By Prof. Dr. RAECKE. Illustrated. 8vo. Berlin: Hirschwald, 1908. Price m. 3.

This little book of 146 pages has been written by Prof. Raecke, of the Kiel Clinic, at an opportune time. It is brief, direct, and definite in its description of clinical types of mental diseases, arranged on the classification of Binswanger and Siemerling. This is just what is wanted when the influence of German opinion is making itself felt, especially in America and England. Prof. Raecke gives extended definitions of terms which the dictionaries have not yet included and which we have not yet thoroughly assimilated, and for that reason alone his book, with an admirable index, is welcome. We hope that it may find a translator, and thus become a useful handbook in explanation of the great mass of German literature which demands our serious attention at present and occupies so much time in studying. It appears to be an authoritative synopsis prepared by a teacher who has set himself to clarify and epitomise just that kind of information which we desire to gain.

Part III.—Epitome.

Progress of Psychiatry in 1908.

BELGIUM.

By Dr. JULES MOREL.

The year 1908 will be memorable in the annals of Belgian alienism for the advances which have been made in the art of nursing. In former days certain asylum authorities went so far as to refuse to allow their medical officers to give professional instruction to the nurses, on the ground that the latter had not sufficient time to attend the courses. It is to be observed, moreover, that Belgian nurses attached to the Flemish asylums were not in the habit of presenting themselves at the examinations held in those institutions.

Recently a royal decree changed the course of events, and the superiors and proprietors of hospitals and asylums now find themselves obliged to assent to their nurses receiving professional instruction.

Previous to this legislation on the subject, however, certain medical officers had offered to instruct those desirous of studying the art of nursing. At Brussels and Antwerp, in pursuance of the example of Great Britain, Holland, France, Germany, and Austria, examinations were organised and diplomas distributed. At the Asylum of Uccle (Fort Jacco), the Sisters of Charity were replaced by certificated nurses from Holland, and regular instruction was initiated by the Medical Superintendent, Dr. Ley—a procedure already carried out at Antwerp in 1902 by Dr. Sano. The syllabus adopted by the above superintendents was based on a proposition formulated by the “Congrès international sur l’assistance des aliénés,” which met at Antwerp in 1902.

Early in 1908, a motion was brought forward in the Belgian Senate by three of its members, proposing that the “Commissions médicales provinciales” should be empowered to give certificates to those nurses and attendants who had complied with certain conditions, the precise nature of which was to be subsequently determined. As the principle at issue had been carried into effect in almost all other civilised countries, the Government felt bound to accede to the proposed legislation, and on April 4th, 1908, a Royal Decree authorised the “Commissions médicales provinciales” to submit to examination those persons desirous of acquiring a nursing certificate. Candidates must have followed during one year a course, theoretical and practical, given according to the official syllabus by a medical practitioner, or have passed a probation of at least two years in a public hospital or private clinic.

From this moment the movement became general, and asylums all over the country began to institute nursing schools, many awarding diplomas of their own. Some of these diplomas require a preparation considerably more extended than that laid down in the Government syllabus, and one only given after two or three examinations. It would be well if these institutions insisted on their pupils passing the Government examination, as the public is apt to repose more confidence in a State diploma. The successful candidates could then be required to continue their studies until the special certificate of the asylum was gained.

It is somewhat surprising to note that while in Belgium the Government only require one year of study from their nurses, a school which was established in May, 1908, at Bamba in the Congo, has a curriculum of three years’ duration, three lessons being given in each week.

The Government programme is not sufficiently extensive in its teaching of the duties of a nurse. This deficiency is particularly noteworthy with regard to such questions as professional secrecy, and the necessary legal measures in case of birth, accident, and death. Again the disastrous effects of alcohol on the human organism are not sufficiently insisted upon, and sexual diseases are completely omitted. One observes, in fact, that the syllabus has been drawn up by men insufficiently acquainted with the procedure which has been adopted in other countries.

Epitome of Current Literature.

1. Neurology.

Bielschowsky's Method of Silver Impregnation of the Neuro-fibrils [*Die Silberimprägnation der Neurofibrillen nach Bielschowsky*]. (*Neur. Cbl.*, 1908, Nr. 19.) Schütz.

The two methods of colouring and impregnating which of recent years have enabled us to see with clearness the intra- and extra-cellular neuro-fibrils, whether they be medullated or non-medullated, are those of Cajal and Bielschowsky. There are upholders of both these methods, and which of the two is the better is not here discussed. Dr. Schütz, who has made use of Bielschowsky's silver impregnation method, although he kept rigidly to the prescribed lines, was at first not quite successful. He soon discovered that the fault lay, not in the method, which is all that could be desired, but in the times of the different processes being of too short duration, and after following the undernoted prescription he has had very good results.

(1) The sections used are only frozen sections, which are very easily prepared with the help of the carbonic acid microtome, of 5-10 μ in thickness. The piece taken from the brain for this purpose, and hardened with 10 *per cent.* formalin (Schering), may be large, and before the sections are made it should stand in water for one to one and a half hours. The sections themselves are placed in aqua dest. for two to three hours.

(2) The sections are placed for twenty-four hours in a 2 *per cent.* solution of silver nitrate (Merk-Darmstadt).

(3) Before the sections are placed in the ammonia silver salt solution prescribed by Bielschowsky, they should again be placed in aqua dest. for twenty-four hours. They may be left in the ammonia silver solution for thirty to forty minutes.

(4) After putting them quickly through distilled water, the sections are placed for twenty-four hours in 20 *per cent.* formol solution, which may be made with rain-water. Schering's formalin, made up to the given strength, has produced good results.

(5) In order to make lasting preparations the sections are placed for ten minutes in frozen vinegar water (10 c.cm. water to 2 gtt. frozen vinegar), and then for thirty to thirty-five minutes in a solution of 10 c.cm. aqua dest., to which three drops of a 1 *per cent.* gold chloride solution has been added. The sections then become greyish-black. A reddish-violet colour, as required by Bielschowsky, has never been procured by Dr. Schütz.

(6) In order to clear away the insufficiently reduced silver, the sections are placed for three to five minutes in a 5 *per cent.* solution of sodium hyposulphite, to which a few drops of a concentrated acid solution of sulphuric acid sodium has been added (to 10 c.cm. hyposulphite of sodium, 1 drop of acid sulphate of sodium).

(7) The sections are washed in aqua dest. for twenty-four hours,

which is replaced by alcohol of rising concentration for twelve hours. They are then cleared in carbol xylol and mounted in Canada-balsam.

HAMILTON C. MARR.

2. Ætiology of Insanity.

The Statistics, Ætiology, Symptoms and Pathology of General Paralysis [Beiträge zur Statistik, Ætiologie, Symptomologie und Pathologischen Anatomie der progressiven Paralyse]. (Arch. f. Psychiat., Bd. 44, H. 1-3.) Junius, P., and Arndt, M.

Although these papers fill 147 pages and contain many details and laborious statistics, they add little to what is already known about this disease. It seems to be now the received opinion that there is a causal sequence between syphilis and general paralysis, but as the one is a very common disease and the other a very rare one, there must be some intermediate nexus which we cannot explain. One of the mysterious circumstances of the incidence of the disease is the length of time which elapses between the luetic infection and the appearance of the paralysis. Junius and Arndt found that the shortest time was three years; the longest time was thirty-five years. In the first decennium after the infection, 85 became paralytic; in the second, 198; in the third, 54; and in the first half of the fourth decennium 5 cases were affected. There seems no evidence that treatment with mercury has any especial influence in bringing on the paralysis; on the contrary, there is reason to believe that a careful mercurial treatment of syphilis acts as a security against the outbreak of the paralysis.

Strümpell and Möbius have conjectured that there must be a chemical change or ferment in the blood. Kraepelin holds that, at the basis of the paralysis, there is a pervading injury to the functions of nutrition, of which the affection of the brain is the most striking and important but by no means the only manifestation. He points out the lesions in different parts of the body, the degeneration of the heart, arteries, kidneys, and bones, and the changes in the bodily weight and temperature in support of his views.

Some pathologists, like Naেকে, hold that, not only is there a specific cause for general paralysis, *i.e.*, syphilis, but that there is also predisposition of the brain to yield in this particular way to the attacks of syphilis, so that one is born, as it were, predestinated to general paralysis. The authors do not dispute the influence of a hereditary taint in some forms of insanity, as in manic-depression and paranoia, but these differ widely from general paralysis in their origin. They are endogenous, one may say constitutional, insanities, which have their roots in the whole personality, form with its growth, and last long. On the other hand, general paralysis in the great majority of instances attacks persons previously sound of mind, mostly between the ages of thirty-five and fifty years, and exhibits the symptoms of an organic progressive disease of the brain which after a few years almost always ends in death.

WILLIAM W. IRELAND.

3. Clinical Psychiatry and Neurology.

Graves' Disease ["*Basedowsche Krankheit*"]. (*Separat-Abdruck aus "Real-Encyclopædia der gesamten Heilkunde," 4 Aufl.*) Buschau, G.

The first to publish characteristic disease of this cases was Dr. Parry in 1825, and in consideration of this fact it should be called "Parry's Disease." In Germany, however, it is called after Dr. Basedow, in England it is known as "Graves' disease," in Italy as "Morbo di Flajani," and in France as "goitre exophthalmique." This last title, the author remarks, is also not a correct one, as recent investigation has shown that the first two of the three symptoms described by Dr. Basedow as being characteristic of the disease (protrusion of the eyes, enlargement of the thyroid gland and over-action of the heart) may altogether fail.

A further history of the discovery of the disease is given, and symptomatology in connection with the circulatory, digestive, respiratory, urinary and genital systems is discussed, as also in relation to the skin and the motor and sensory symptoms. Psychical and general symptoms are not omitted. The ætiology, pathological anatomy, pathogenesis, diagnosis and prognosis receive full attention from the author, and a list of the available literature on the subject is appended.

HAMILTON C. MARR.

Serum Diagnosis in Psychiatry and Neurology [*Die Serodagnostik in der Psychiatrie und Neurologie*]. (*Allg. Zeits. Psychiat., Bd. 65, H. 4.*) Stertz.

[*Über das Vorhandsein Syphilitischer Antistoffe in der Cerebro-spinal Flüssigkeit von Paralytiker*]. (*Deuts. med. Wochensc., No. 44, s. 1769, 1906.*) Wassermann and Plaut.

Those who wish to repeat these investigations should consult Wassermann's paper, in which his complicated methods of preparation are described at length. Dr. Stertz has for a whole year tried his methods of diagnosis upon insane patients in the Royal Klinik at Breslau. Specimens of cerebro-spinal fluid were removed by lumbar puncture from patients with general paralysis, and on being mixed with an extract from syphilitic organs there was a decided arrest of hæmolysis, while on the cerebro-spinal fluid being mixed with extract prepared in a similar way, but from non-luetic organs, there was no arrest of the hæmolysis. Dr. Stertz found that in 45 cases of general paralysis the cerebro-spinal fluid showed the positive reaction 40 times. In 3 cases the reaction was doubtful and in 2 it was negative. But with these last 5 cases positive reactions were found in 3 with blood serum; only 2 were wholly negative. Thus the reaction was obtained in 95 *per cent.* of the cases of general paralysis examined.

Dr. Stertz observes that corresponding results are not always obtained with the blood-serum and the cerebro-spinal fluid. The number of cases of tabes dorsalis examined in this way was not large, and did not always lead to positive reactions like the paralytics.

In syphilitic diseases of the nervous system a positive reaction with the cerebro-spinal fluid is the exception. In 8 cases, in which there was no reaction with the cerebro-spinal fluid, the blood-serum was

tested in 3 of them, when in 2 it was found to be positive. In 7 cases of latent or of cured syphilis with no nervous symptoms the reaction of the cerebro-spinal fluid was negative. In 46 other cases, comprising a great variety of functional and organic nervous diseases unconnected with syphilis, the reaction was found to be negative.

From these data it is hoped we shall be able to form a differential diagnosis between syphilitic and meta-syphilitic diseases of the nervous system, and that the specific cause of the meta-syphilitic diseases, tabes, and general paralysis, may yet be shown by chemical and biological research. The bearing of all pathological observation goes to support the axiom—"without syphilis no general paralysis."

Dr. Stertz observes that while the occurrence of lymphocytosis in the spinal fluid promises a handy method of diagnosis in general paralysis, it might in some cases lead us into error. An increase of the lymphocytes in this fluid is present in luetic cases, and sometimes lasts long. On the other hand Dr. Hamilton Marr, in his paper on "The Examination of Cerebro-spinal Fluid in General Paralysis for Purposes of Diagnosis,"¹ tells us that lymphocytosis occurs in syphilitic insanity, but only when the luetic condition is active.

In the "*Literatuheft*" of the *Allgemeine Zeitung für Psychiatrie*, 1907, a number of articles are cited confirming the view that general paralysis in some unexplained way follows syphilitic infection. Naেকে believes that there is also a specific proclivity of the brain, generally congenital but sometimes acquired, which renders the subject liable to yield to the action of lues often combined with other causes.

WILLIAM W. IRELAND.

On the Serum Diagnosis of Syphilitic Diseases of the Central Nervous System [Ueber das Wassermann-Plautsche Verfahren der Serodiagnostik bei Syphilidogenen Erkrankungen des Zentralnervensystems]. (*Allg. Zeits. f. Psychiat.*, Bd. 65, H. 1.) Foerster, R.

Reviewing recent researches on serum diagnosis, Dr. Foerster tells us that by these new methods Schütze obtained out of twelve cases eight times a positive and four times a negative result. Marie and Levaditi out of thirty-nine spinal fluids obtained twenty-nine luetic reactions. Morgenroth and Stertz were successful in obtaining the reaction in every case with eight general paralytics, G. Meier twenty-seven times with thirty-nine patients. Even when the test failed with the spinal fluid it was found positive with the blood-serum. This examination should never be neglected. The relation of the so-called antibodies and the part they play in the production of paralysis has not yet been explained. All we know is that in general paralysis there are processes which are connected with syphilis. In tabes and lues cerebri the reaction is more often negative, or is weaker than in paralysis. The amount of albumen and the lymphocytosis in the spinal fluid does not always agree with the presence of the positive reaction.

Coming now to his own inquiries, Foerster found that in fourteen paralytics there was a positive reaction in nine cases; in one it was doubtful, and in four it was negative. These negative results were all in the spinal fluid. In six cases, in which there was increase of the

¹ *Review of Neurology and Psychiatry*, November, 1908.

albumen and lymphocytosis, the reaction was four times positive, once doubtful, and once negative. In all the fourteen cases of general paralysis, there was a record of syphilis in only four instances, showing how little such admissions are to be relied on. Out of four patients with lues cerebri three gave a doubtful and one a weak positive reaction.

The spinal fluid of an old patient with tabes gave a positive reaction, also the serum with two cases of congenital syphilis implicating the nerve centres.

Foerster remarks, in conclusion, that some newer investigators (Marie and Levaditi, Weygandt, Weil) have reported that arrest of the hæmolysis may also be brought about by an extract from normal organs in larger doses and from extract from tumours. These observations, Foerster observes, while they must modify the theoretical presumptions based upon the original experiments, do not in any way lessen the practical value of the methods. However this may be, no one is likely to disagree with the last sentence, that a speedy diminution of the technical difficulties which precludes these experiments being performed outside of a special laboratory is a thing to be hoped for. Dr. Harry Campbell, writing in the *British Medical Journal* for February 27th, has already described a simpler method which he learned from Dr. Perges at Vienna.

WILLIAM W. IRELAND.

The Serum Diagnosis of Diseases of Syphilitic Origin in the Nerve Centres [*Die Serodiagnose der Syphilitischen Erkrankung des Zentralnervensystems*]. (*Allg. Zeits. f. Psychiat.*, Bd. 65, H. 3.) Rosenfeld.

In the course of his communication to the Psychiatric Association of the South-West German Alienists held at Heidelberg in November, 1907, Dr. Rosenberg stated that Plaut had succeeded in obtaining the reaction of the anti-stuffs in the cerebro-spinal fluid of paralytics in well-nigh 100 *per cent.* of the cases examined. In lues cerebri, and in lues without cerebral affection, the number of cases that presented a positive reaction was small. Thus the presence of anti-stuffs in the spinal fluid would appear to be pathognomonic of general paralysis.

The drawback to this test is the extreme difficulty of the preparations. Fernet and Schereschewsky, working at the Bacteriological Institution at Strasburg, have devised a simpler and easier method described in the *Münch. med. Wochenschrift*, Nr. 30. Their preparation, called "Luesprazipitine" and "Luespraziptinogine," was found to give a reaction when the serum of a syphilitic in whose organism the *Spirochæta pallida* was found had been mixed with the serum of several paralytics and tabetics. In the majority of cases, there was a specific precipitate, while neither the serum of a syphilitic subject nor that of a paralytic or tabetic gave a like reaction with normal serum. But in several cases of undoubted paralysis and in one in which there was in addition involvement of the bones in the disease the precipitate failed to appear. In the following discussion Alzheimer stated that experiments in the Munich Klinik had shown that this method was often untrustworthy, whereas the complement method used by Wassermann gave constant results.

WILLIAM W. IRELAND.

Serum diagnosis in Psychiatry [*Du Séro-Diagnostic en Psychiatrie*].
(*Rev. de Psychiat.*, Oct., 1908.) Marie, A.

The application of bio-diagnostic methods in psychiatry, recent as it is, has already effected modifications in our views regarding the ætiology, prognosis, and therapy of mental disorders, and sero-diagnostic methods have been especially fertile in psychiatric applications. After summarising recent results obtained in this field by other investigators Marie goes on to speak of general paralysis of the insane. Light regarding the nature and origin of this disease may be expected rather from laboratory investigations than from psycho-diagnostic methods. Marie has studied paralytic dementia by means of cultures from the blood and the cerebro-spinal fluid of persons suffering from this disease, by means of sero-agglutinations with both these fluids, and by the opsonic method. He has thus arrived at results which he regards as negating the idea that paralytic dementia is dependent upon infection with the *B. paralyticans* of Ford-Robertson and McRae. Marie, having visited Morningside in 1904, endeavoured, by laboratory investigations on his own clinical material, to check the results obtained by Ford-Robertson and McRae in Scotland and confirmed by O'Brien in the United States.¹

He made bacteriological examinations of the urine, the various tissues, more especially the nervous tissues, the cerebro-spinal fluid and the blood, and was unable to isolate the *Bacillus paralyticans*. With a pure culture of the diphtheroid bacilli received from Scotland, suspended in physiological serum, injections were made in the ears of two rabbits. No result of an infective character was obtained. Robertson having, however, stated that the rabbit was comparatively refractory to infection, further experiments were made by intra-peritoneal injection of the virus on white rats, again without result. Opsonic and sero-agglutinative tests were then made with the bacilli on several cases of paralytic dementia. The results were the reverse of those which would have been obtained had the bacillus been specific. Marie therefore concludes that the *Bacillus paralyticans* is not the specific exciting cause of paralytic dementia. "It appears to be no more than an epi-phenomenon, a result of secondary infection, which may, perhaps, be especially frequent in certain regions—perhaps the Scottish climatic conditions are exceptionably favourable to its development; . . . cachectic paralytic dements may be especially liable to infection without the bacillus being in any way a cause of the disease; it is possible, of course, that the bacillus may be a cause of the consequences or frequent complications of paralytic dementia (ictus, *i.e.*, congestive seizures); and this is a matter well worthy of further study, especially with a view to the prevention of these complications (the anti-paralytic serum of Robertson for the prevention of congestive seizures.)"

M. EDEN PAUL.

On Some Reflexes in Hysteria [*De quelques réflexes dans l'hystérie*].
(*Gaz. des Hôp.*, Dec. 1st, 1908.) Roger, H.

The author discusses the pharyngeal, conjunctival and pupillary

¹ See page 558, epitome of O'Brien's "Experimental Observations into the Ætiology and Treatment of Paresis."

reflexes. The pharyngeal reflex is frequently absent in hysteria. Since, however, this occurs in many other disorders and it may be voluntarily inhibited, the symptoms cannot be regarded as a definite stigma of hysteria or in any way pathognomonic. It is noteworthy that the reflex is usually abolished in smokers and drinkers. The conjunctival reflex is also often lost in various other diseases and its absence may result from suggestion. As regards the pupillary reflexes there is some difference of opinion. Many writers have, however, noted its absence during convulsive attacks and also variations in the size of the pupils. Dilatation from painful cutaneous stimulation persists even if the stimulated area is anæsthetic. An extensive bibliography is appended to the article.

H. DEVINE.

Swindling and Hypnosis [Escroquerie et Hypnose]. (Arch. de Psych., Oct., 1907). Leroy, B.

The following case, in addition to its purely psychological interest, is of considerable medico-legal importance.

In September, 1902, Alf., a young married woman, presented herself at the Salpêtrière complaining of incessant persecution on the part of a neighbour. She stated that Berthe, the individual in question, was able to move the furniture about without contact, and to introduce strange sounds and ventriloquist voices into her apartment. Further, Berthe had acquired such influence over Alf. as to force her to hand over all her furniture to her persecutor. The patient's grandmother confirmed this strange story, and added that she herself had been victimised, having been forced to sign a receipt for 950 fr.—none of which had been received—representing the price of some furniture that had been removed.

Investigation revealed the following facts. In 1901 the patient's brother-in-law and his wife (Berthe) came to live in the same house as that in which Alf. and her husband had apartments. Both the new arrivals had rather bad reputations, in consequence of which there was but little communication between the two families.

In June, 1902, Berthe attempted to gain an influence over Alf. by various crude methods which cannot be here detailed. Wearying of tactics which were unsuccessful she engaged in sleight of hand manœuvres—table rapping, strange noises, furniture moving—which completely duped the grandmother, but not the less credulous Alf., who rightly attributed the phenomena to Berthe, whom she thought was antagonistic and spiteful to her. Finding legerdemain useless, Berthe next tried ventriloquism—imitating the voices of dead relatives, etc. By these means both Alf. and her grandmother became convinced that they were menaced by spirits, and adopted various superstitious practices to rid themselves of their trouble. Eventually in consequence of threats from these "voices" and in obedience to their commands they handed over money and various articles to Berthe, on one occasion giving a receipt as related above.

In the case of the grandmother, who was definitely senile, it is easy to understand how her credulity would make her the ready victim of a clever and designing woman. Alf., however, was more level-headed, and it seemed at first strange that she also should have been duped.

The explanation lay in the fact that Berthe had succeeded in hypnotising her victim, obtaining by this method complete power over her. It was found that in somnambulistic states Alf. had disposed of many of her goods and handed over the proceeds without question to her persecutor. In the waking state, also, when she had doubted the supernatural character of the voices, Berthe could force her to believe in them and yield to their commands by gazing fixedly at her. The patient had forgotten many of her actions performed during somnambulism, but the author was able to reproduce them in hypnosis and eventually to reveal to her how completely she had been victimised. The true condition of affairs having been elicited, Berthe was forced to restore the furniture which had not already been sold, but no further legal steps were taken owing to the close relationship between the two parties.

H. DEVINE.

Mirror Writing and Awkward Action in Paralysis of the Right Side (Apraxy) [Spiegelschrift und Fehlhandlungen bei Rechtsgelähmten (Apraxie)]. (Arch. f. Psychiat., Bd. 43, H. 3.) Fraenkel.

Under this title Dr. Manfred Fraenkel, in an article of thirty-six pages, advocates the increased use of the left hand.

We have only room for the finishing peroration. If men hitherto have worked with only one half brain what great performances may be expected from mankind when they bring into action their doubled mental energy. We hear so much of the overburdening of children; it is said that our brains and nerves are not equal to the strain of modern exigencies. But here opens a way for the salvation of mankind. We physicians had well give the greatest attention to this momentous question. The school alone is in a condition to change our one-sided capacity into a double-sided one. As already shown, there are many examples of men who, 'compelled by some casualty to use their left hands, soon showed that it was more educable than is commonly thought. In the school, the children should be taught to write with both hands; they would thus become as skilful with the left hand as with the right, and results beneficial to mankind would surely follow. "Let us, then," concludes Dr. Fraenkel, "strive with united effort to waken our right slumbering brain." We are to save mankind by making everyone ambidextrous.

WILLIAM W. IRELAND.

Epilepsy and Left-handedness [Epilepsie und Linkshändigkeit]. (Arch. für Psychiat., Bd. 44, H. 1.) Redlick, E.

Dr. Redlick, in a paper of twenty-seven pages, has a study of left-handedness. This abnormality occurs in a proportion of from 2 to 4 per cent. in all peoples, and from the evidence of primeval flint tools and weapons it seems to have existed in very far back times. It is sometimes hereditary. Lombroso found left-handedness much commoner with criminals, but it does not seem to be so with the insane. With the left-handed the sensibility seems to be sharper than in the right side, and Tonini has found in addition to this sensibility of the left side an increased tendon reflex. Dr. Redlick is inclined to consider left-handedness a sign of degeneration following weakness of the

left hemisphere. He has observed that amongst one hundred and twenty-five epileptics twenty-two were left-handed, that is, 17·5 *per cent.* That a deficiency of one hemisphere may sometimes be the beginning of left-handedness may be admitted, without recognising this abnormality to be in all cases a sign of degeneration or disease. It has not been found that left-handed people are really more awkward or less intelligent than the right-handed. They are often put to a disadvantage at school, as the teachers steadily forbid them using the hand which is natural to them. I never met with a teacher who would admit that any child should be allowed to write with his left hand. Thus, between their practice in the playground and their discipline in the school, the left-handed generally become ambidextrous. There is a society in London, comprising some distinguished persons, the aim of which is to train people to have equal use of both right and left hands. One of their arguments is that this would keep both the hemispheres of the brain in active function, and that this might have an effect in increasing the general intelligence.

WILLIAM W. IRELAND.

Migraine [*Discussion sur les Formes Cliniques des Neuralgies*]. (Rev. de Psychiat., Sept., 1908.) Hartenberg, M.

The author expresses his opinion that although migraine is a vascular neurosis, it is really a paroxysmal neuralgia of the cervical sympathetic system which is irritated.

But whilst one generally explains the pain by a vascular spasm compressing the sensory nerve-endings in the arterial walls, he considers that it is due to a primary irritation of the sympathetic system, and that the vascular variations and pain are not consecutive but only associated; this theory will permit one to understand that intense certain vaso-constrictions may not be painful, and can be applied as well to the two forms, vaso-spastic or vaso-dilatation, of hemicrania. Although the causes of the irritation may be obscure, he considers that one of the most frequent is muscular rheumatism of the neck, since, when this is cured by constant currents and massage, the migraine ceases.

SIDNEY CLARKE.

An Insane (?) Malingerer. (Amer. Journ. of Insanity, April, 1908.) Drew, C. A.

On July 17th, 1905, J. H—, æt. 35, married, was committed to the State Asylum for Insane Criminals from the State Prison at Charlestown, where he was serving a life sentence for murder in the second degree. Six months previously, he had been committed to prison for shooting a woman in a drunken brawl. He had cohabited with this woman, who had jilted him, and had contracted syphilis from her. He had been a pool-room proprietor, bar-tender, and lottery agent, and had been known in his native city as "Joe the Snake," and "Joe the Fox," and for some years before this homicidal act as "Crazy Joe." He had drunk to excess for the last two years. In the opinion of both the physicians who committed him to the asylum, he was more or less of an imbecile and incapable of doing much work owing to sheer stupidity. He was suspicious and pretended to be more simple and foolish than he really was. Notes taken during the first four months after his admission to

the asylum show that he continued very suspicious, thought that his food was poisoned, and was aurally hallucinated. His bodily health improved under anti-syphilitic treatment. His eyesight continued impaired as on admission. He was regarded as suffering from a dementing psychosis—a paranoid type of alcoholic dementia—notwithstanding that there was strong proof that he feigned insanity at his trial. Evidence of simulation cumulated steadily, however, and he was returned to the State prison in June, 1906, as “not now insane” and “a clever malingerer,” after being under observation in the asylum for nearly eleven months. In the following October, he made a feeble attempt to hang himself with a sheet in his prison cell. In August of the following year, he was re-committed to the State asylum, the medical certificate stating, among other things, that he had shown no signs of being clever at anything, and was considered to be an imbecile. He was much emaciated on his re-admission. He volunteered the information that he was tubercular and should have been sent to the prison camp for such cases. After his re-admission to the asylum, he gave up fasting and gained 23 lb. in weight in three months. He asked for work, and took care of the patients’ clothes in the hospital ward for two months as intelligently as any paid employee.

To summarise this case, when first in prison his symptoms all pointed to gross stupidity, imbecility, or mental deficiency. On his admission to the asylum at first he appeared very stupid or deeply demented. Later his symptoms shifted to those of a very delusional paranoiac. When he was returned to the prison he again apparently became very stupid. When he was returned to the asylum, his stupidity all vanished, and he again became a full-fledged paranoiac. As Drew points out it seems unfortunate for the diagnosis of imbecility that it is a constitutional and fairly constant state.

Although he believes that all the symptoms mentioned in the commitment of J. H— were feigned, yet the question of his entire responsibility is still an open one. He seems so much of a degenerate, or deviate, and so difficult to care for in prison, that the author thinks that the ends of justice and humanity may as well be served by making the asylum his permanent home.

A. W. WILCOX.

Mental Claudication [*Claudicazione Cerebrale Psichica*]. (*Riv. di Pat. Nerv. e Ment.*, vol. xviii, fasc. 7.) Benigni, P. F.

Charcot, first in 1858 and subsequently in 1887, originated the idea of intermittent claudication in man, due, as in the horse, to obliterative arterial lesions of the inferior limbs. Many cases of the condition due to progressive endocarditis have since been published, and the phenomena are in all similar. A characteristic and essential feature is the temporary cessation of function in the affected part (limb).

Recently the classical opinion of claudication has been added to by extending its physio-pathological significance to special functions of special organs or systems, and the view of a visceral claudication has thus been created.

In 1866 Potain described the crises of cardiac ischæmia to be due to stenosis of the coronary arteries; he advanced the new and complete theory that angina pectoris was a legacy of ischæmia of the myocardium.

Grocco, in 1892, called attention to cases of true renal disorderliness with oscillation of the amount of urea excreted, compared with the amount of albuminuria, from day to day. He pointed out that there was a true intermittent renal claudication, which frequently preceded the development of chronic nephritis.

Grasset, in 1890, was the first to draw attention to the effect of claudication on the nervous centres, and was of opinion that intermittent symptomatic claudication was the result of arterio-sclerosis, and could be manifested in each of the constituent parts of the central nervous system. Intermittent claudication of the brain was studied by Grasset from the year 1904. This variety manifests itself, according to him, as an assemblage of symptoms, of which the principle are amnesia, intellectual fatigue and aphasia. In support of his contention he cites the case of a nephritic individual who suddenly had tingling sensations in one hand, and then, without loss of consciousness, became aphasic, not finding words to express his thoughts; after several hours these disturbances disappeared. He describes the cause of these symptoms as a passing insufficiency of the circulation of the third left frontal convolution. As a result of his researches Grasset was of opinion that there was a true cerebral claudication related to spasm of the arterioles of the region of Broca. At the same time he indicates very transiently a mental form of cerebral claudication which may be produced by periods of mental strain after excesses of intellectual work, and is an expression of cerebral fatigue.

Dr. Benigni, in this paper, treats in detail of the points he considers of importance in the pathogenesis and anatomical basis of the phenomena of intermittent mental cerebral claudication. The pathogenesis is often ascribed to transitory ischaemia through slackening or temporary suppression of the circulation, and is a result of the organ not receiving sufficient vital nourishment, and thus lacking in capacity for daily work.

The pathological anatomy of the causal fact, *viz.*, arterio-sclerosis, does not merit special distinction. It may be of inflammatory or of degenerative origin, and identical in the vessels of the brain and in those of the limbs.

Writing of the pathogenesis Benigni is of opinion that the principal cause of the phenomena, while in the circulatory system, does not occur without inhibitory central impulses. If, for instance, an important vessel in a limb is closed the abolition of movement is not instantaneous but gradual. If the collateral circulation is established the abolition of movement disappears. If, on the other hand, the most important nervous conduction is interrupted the paralysis is instantaneous and complete and cannot be compensated by collateral circulation. In the region of the nervous system it is known that the function of a given part is more under the control of nervous action than under the dominion of the circulation. It is a well-known fact that the nervous centres and nervous ramifications can temporarily functionate without nutriment; for instance, the heart of a frog, after removal from the body, pulsates through the intrinsic vitality of its own nervous ganglia, and the various segments of insects and reptiles survive, after they are detached from the body, by nervous impulse. Thus an organ

is not vitally affected until the inhibitory action of the nervous system is exhausted.

It may be possible to have the phenomena of claudication with perfect integrity of the circulation, and solely through nervous influence. Grasset recognises claudication as the result of simple spasm of a vessel, a spasm which expresses, in point of fact, a nervous origin. It may also occur when the arterial walls are quite healthy (nervous angio-spasm).

Grocco has demonstrated in two cases that angina pectoris may be due to an affection of the nerves of the heart, the blood-vessels being perfectly normal.

The peculiar characteristics of claudicational disturbances are their transitoriness, and their dependence on vascular lesions. When the phenomena are carried into the realm of mental disease there is generally a circulatory disturbance. The vessel diseases that are found in many forms of mental disease play an important part, direct and indirect, in the origin of functional diseases of the brain. These vessel diseases may follow as much from excess of function as from alterations of an acute or chronic kind. The integrity of the vessel-walls may be endangered by impurity of the blood, the result of intoxications and infectious diseases. These morbid causes may induce a precocious arterio-sclerosis, resulting in many conditions which are probably at the root of the explanation of claudicational phenomena in early and pre-senile cases, epochs in which are manifested the larger number of the morbid mental forms, progressive and transitory. Again, excitement of the vaso-centres of the bulb or medulla may induce vascular spasm or dilatation. Thus there exists a form of claudication (Roth) in which the circulatory disturbances of the trunk of the femoral nerve centres are a causal element. The claudicational phenomena have here been provoked, not by vessel alterations, but by mechanical disturbances, such as muscular contractions, erect postures, etc.

The chief causes of the anatomical lesions in mental cerebral claudication are the same as those forming the ætiology of many mental diseases, *e.g.*, alcohol, tobacco, lead and uric acid diathesis, among infectious maladies, syphilis, the toxins of typhus, scarlatina, influenza, etc., which are all of ætiological importance in inducing arterio-sclerosis. The affecting causes, and perhaps also the affections themselves, would be considered in such cases as the pathogenic agents.

The suspension of the functions of a claudicating organ ought to be necessarily of short duration, or it will last hours and days without prejudicing the significance of intermittent claudication.

Claudicational cerebral disturbances of mental order are met with frequently in the course of common mental maladies. Thus it is not rare to note in melancholic, plethoric, arterio-sclerotic individuals the crises of true amnesia associated with temporary hemiparesis, hemi-æsthesia, cephalalgia, etc., with hallucinatory disturbances, mental confusion, more or less severe, depending on obliterating arteries of the cerebral vessels, having characteristics of true intermittence, and being therefore comparable to the intermittent claudication of Charcot. The greater part of the transitory cerebral manifestations in the gouty belong to the same class. Such manifestations are also of motor order, as in

nephritic delirium. Many forms or episodes of mental alienation, according to Dieulafoy—acute delirium, mania, lipemia, etc.—can occur as passing manifestations of lesions of the cerebral vessels. According to some authors these transitory mental phenomena are ascribed mainly to toxic elements; others again hold that the toxic material injures first the cerebral vessels and causes intermittent manifestation, the result of true intermittent claudication.

Cerebral claudication may explain the episodes of confusion with psycho-motor agitation of short and rapid duration in persons who have recovered over months or years.

In progressive paralysis how are the crises to be interpreted which are frequent at the beginning and in the course of the disease, *viz.*, epileptic and apoplectiform attacks with hemiplegia, hemiparesis, or monoparesis of short duration, temporary motor aphasia, congestions, vertiginous attacks, all symptoms of a transitory order; the states of mental confusion that arise suddenly, and are more or less profound, and which end with the same rapidity as some of the motor affections with which they are generally accompanied; the sudden impulses on account of which the patient is thrown headlong into threats or fears and verbigeration with chaotic delirium and complete disorientation, with loss of consciousness, in short, true mental arrests with complete loss of consciousness that are accompanied by true motor attacks? All these mental disturbances have the special characteristics of a more or less sudden rise and sudden recovery. Again, in senile dementia we find true confusional attacks—fleeting dreams—in which the patients become so disorientated as even to lose the correct idea of personality. With these confused states we can associate serious illusions, motor agitations, anxiety and fright. Such states remain for many hours—even for more than a whole day; they clear up with a certain rapidity, and the patients regain their usual lucidity.

The cerebral vessels in senile demented show evident atheromatous alteration in the large and small arteries, hence the circulatory disturbances can be easily initiated, and carry with them intermittent disturbances of a functional nature. This happens much more easily in brains already weakened by an atrophic process of the nervous elements.

In arterio-sclerosis mental phenomena are noticed, often transitory, such as delirium, more or less severe, depressed or agitated psycho-motor states, with impulsiveness. They are of short duration, and the patient becomes more or less apathetic and demented.

Benigni is of opinion that not only the diminution of the afflux of blood to an organ, but any transitory disturbance of the cerebral circulation, as the increase of bloody effusion, is able to cause an intermittent claudication of the organ.

Some of the acute mental disorders noticed in dementia præcox, as sensory frenzies, the rapt condition of certain melancholic states, and perhaps also certain states of epilepsy, can be compared with the phenomena of mental claudication. We know, however, that cerebral sclerosis is often found in youth, when toxic or infective causes irritate, and one or other of the many causes capable of bringing about ischæmia may be present, whence it is possible that these emotional states and toxic blood conditions may cause cerebral angio-spasm, and the forms

of mental disturbance already noted. In the course of dementia præcox, sudden fleeting episodes of mental confusion with agitation may arise, on account of which patients, at first tranquil and apathetic, are thrown into dangerous or fearful states, in which they break furniture, tear up clothing, and are given over to a lively emotion, shouting words or incoherent phrases, and refusing food. They then rapidly calm down, without knowing anything of their sudden agitation, or they say that their confusion was the result of a sudden fearful sight that they felt like a blow on the head, although they can record little or nothing of the occurrence.

Benigni's theory regarding mental cerebral claudication is that toxins enter the circulation suddenly, in greater quantities than usual, and are able to act directly or indirectly, through their effect on nerve cells, on the vessel walls, causing angio-spasm or paresis. Should the vessel walls be diseased, as they generally are, the claudicational phenomena are easier of production.

HAMILTON C. MARR.

The Power of Comprehension and Observation in Dementia Præcox [Auffassungs- und Merkfähigkeit bei Dementia Præcox]. (Psychol. Arbeiten, published by Prof. Emil Kraepelin, vol. v, Part VIII.) Busch, A.

The tests described by Dr. Busch were made at Heidelberg in 1903. Reis had already discovered that the power of comprehension in the paralytic was much more impaired than that of the hebephrenic, who often had normal comprehension—a discovery that is not surprising in view of the fact that the clinical picture of hebephrenia shows the powers of comprehension and observation to be very slightly disturbed in comparison to the impairment of will-power. On account of the fact that this side of the psychical change differed in some degree from the clinical picture in the group of patients suffering from dementia præcox, it seemed interesting to make the tests again, and, if possible, more fully.

Reis used the Cron-Kraepelin rotating drum for his tests, but this instrument has the disadvantage—especially in the case of dementia præcox patients—that the patients, being left to themselves to read off the writing, after a time are inclined to become so indifferent that their efforts cease altogether. For this reason it was thought expedient to use Finzi's shooting plate in conjunction with the rotating drum, an arrangement which had these advantages: (1) It was impossible for the patient to lapse into a state of indifference, for after each passing of the plate he had to state (*a*) whether he had read anything, (*b*) what he had read. (2) The apparatus does not place such a strain on the patient as the rotating drum, which requires constant attention for six or seven minutes.

A detailed description of the instruments will be found in the works of Cron-Kraepelin and Finzi. In the tests with the shooting plate the opening was 1.9 cm. and the length of time the plates were visible was 22 seconds. The duration of visibility in Finzi's own tests—he worked entirely with normal and educated people—was 16.7 seconds.

The tests were made on nineteen patients diagnosed as dementia præcox cases, and on six healthy persons, attendants in the institution.

The first test in each case was with the shooting plate, nine large (Latin) letters of the alphabet being used. The next step was to make tests with the rotating drum with meaningless syllables, one- and two-syllabled words. Lastly, a few tests on the shooting plate with meaningless words were made.

The histories of all the patients are given, and tables showing the results of testing in each case.

The tests on healthy persons showed that the extent of comprehension and observation was dependent on education, *i.e.*, ability to read, of the subject, but irrespective of education, every case demonstrated that when a pause of ten seconds was given between the actual testing and the response there was a growing tendency to give the correct answers, but that after thirty seconds' interval errors began to get more frequent and correct answers fewer, the total readings being less. There were no signs of fatigue noticed—the tests were too short for this. On the last five days of testing, as a result of practice, four persons showed a total increase, as compared with the first five days, of 12.9 *per cent.* in the total number of readings, an increase of 22.1 *per cent.* in the correct readings, and a decrease of 16.9 *per cent.* in the incorrect.

Taking the averages, most of the patients showed an increase in faults and a lower percentage of correct readings than the healthy. The average of correct readings in patients was 50.14 *per cent.*, and in attendants 72.01 *per cent.* With a pause of ten seconds after the stimulus the correct readings fell to 43.30 *per cent.* in the patients, and rose to 70.40 *per cent.* in the attendants.

The rotating drum tests were made on three patients, and the results compared with those of experiments on healthy persons previously made under similar conditions by Cron-Kraepelin and Reis. The comparison showed that errors and omissions were increased in the cases tried, and that repeated mistakes, in proportion to the mistakes, were fewer. The results were similar in that there were more correct readings and fewer omissions, with, at the same time, an increase in errors when one-syllabled words were used for the tests than when meaningless syllables were employed, although the former contained more letters.

In testing for observation of single letters, the second and third letters were most frequently recognised, the fourth not so often, while the last was very badly reflected on the minds of the patients.

Tests with the shooting plate with meaningless syllables and one-syllabled words were made in three cases of patients only. There was a very large percentage of errors.

All the patients were willing to make the tests, and set to work earnestly. Four patients, in the tests for attention, gave a return of fewer errors, with at the same time fewer correct answers, than the healthy. Two of these patients were very well educated. But the largest group of patients was that whose readings were, with regard to accuracy, usually slightly below normal, and while the errors made were only in a few cases equal in number to those made by normal persons, in all other cases the number of mistakes was largely increased. This

does not show a simple abatement of the sharpness of comprehension in the patients, or a greater difficulty of the test for their lessened ability. The results we have from healthy persons are decidedly against this. In these experiments there was more difficulty in the test given to the unpractised attendants and nurses, and the result was a back-setting of the correct readings, a diminution of the absolute error return, and a marked diminution in the number of readings made. The patients, as a rule, made just as many, or even more readings than the healthy, and the decrease in correct readings was more than equalled by the increase in errors, so that clearly the largest number of misreadings arose from the inclination of the patients to repeat hurried and inaccurate impressions. The patients, as compared with the healthy, seemed less careful to differentiate the reliable from the uncertain observations, and to give a less exact account of the faultiness of their comprehension. Even those patients who showed least indifference were not able to give reliable answers. The extent of their attention was wider than normal—they accounted for more readings—but its exactness was less, *i.e.*, it was falsified and increased by self-assimilative additions. In three cases, when the tests were made with the shooting plate, for single letters, there was a medium return of correct answers, and a very large percentage of incorrect—even when the blank plate was rushed past, one patient gave answers as usual, evidently responding in a mechanical way, and from former experience. How far this automatical working of the brain influenced the other patients is difficult to say, but it does not seem to have played an important rôle, except in the three cases mentioned.

The impressions in the patients faded quickly, without gaining any strength, and at the same time new and false impressions showed themselves. At this stage the patients were not able to distinguish correct from false impressions.

The conclusion is reached that it is possible to classify all the disturbances thus found in the patients under the same headings as those found by clinical observation.

The lessened dexterity of the patients when at work is probably another expression of their diminished will-power.

The want of initiative on the part of the patients was shown by the very bad results obtained when the rotating drum was used.

In the tests for single letters, in the one- and two-syllabled words, the patients, unlike the healthy, seemed to have difficulty in grasping the large initial letter of the word. Their attention was drawn to the middle of the word, showing that they looked on the words as wholes, and made no attempt at spelling them. This, again, shows passive, assimilative reading, and indifferent attention. It has been suggested that as the spaces between the words were smaller than between the syllables, the patients could not apply their attention in the short time to the beginning of the next word, also showing a passive and slow apperception. With the shooting plate the first letter was always best recognised, whether printed with a large or with a small character.

It is thus seen that the diminution of sensitiveness to stimulation and the inactivity of the will-power, which are the principal symptoms in dementia præcox, can be traced back and found in the most elemental

efforts of the will, in those of the apperception. It can be taken for granted that the tendency to inaccuracy, *i.e.*, the lessened ability of the patients to differentiate sharply between objective impressions and subjective "memory pictures" which are connected with the above-mentioned impairment of the apperception, also injures the comprehension generally. Perhaps the mistaking of identity, etc., and the errors of memory found in dementia præcox patients are a clinical expression of this inability. Possibly also we have here a good foundation for hallucinatory symptoms, and lastly, it is not improbable that this deficiency is also the cause of the "matter of course" way in which the patients take their hallucinations and delusions for actual facts.

Concluding remarks.—(1) The extent of comprehension and observation is dependent on the education (*i.e.*, the amount of practice in reading) of the subject.

(2) The number of correct readings is, in dementia præcox, on the whole, lessened, and the number of faults, on the contrary, often very considerably increased.

(3) In the tests for attention, the patients did not show a normal rising in clearness of the impression after a pause of a few seconds, but the power of attention sank under that of comprehension from the beginning, with, at the same time, an increase in errors.

(4) The disturbances of comprehension and observation in dementia præcox can be traced back to a dulness of attention (more passive apperception) and the occurrence of automatical and stereotyped replies.

(5) The ability to differentiate reproductive elements of the consciousness from outer impressions is lessened in dementia præcox on account of the reduced power of attention.

(6) The attention of the patients is not only less strained, but is slower.

(7) The disturbances are in general stronger in the acute outbursts of illness, which are accompanied by lively symptoms, than in the chronic and lapsed cases—therefore stronger in katatonia than in hebephrenia.

(8) The dexterity of the patients is decreased.

A note is added to this article stating that, as several years have passed since the tests were made, it has been possible to watch the progress of the cases. The diagnosis of dementia præcox proved to be correct in every case, except in one, a patient who, it was afterwards discovered, was suffering from hysteria combined with mild imbecility. It is evident from this case that the phenomena discovered are not peculiar to dementia præcox.

HAMILTON C. MARR.

Two Cases of Landry's Paralysis [*Zwei Fälle von Landry'scher Paralyse*]. (*Neur. Cbl.*, 1908, Nr. 21.) Sarbo, Arthur V.

The question as to whether Landry's paralysis is an affection of the grey anterior cornu of the spinal cord or a disease of the peripheral nerves has not yet been settled. The two cases cited point, from their clinical pictures, to a disease of the anterior motor nerve-cells of the spinal cord, the medulla oblongata, and the pons.

The first case is rare in that it showed a progressive motor paralysis. A boy, æt. 12, who five years previously had suffered from middle-ear disease, and since then had had occasional discharge from the right ear,

but was otherwise healthy, was suddenly affected with paralysis of the soft palate and the muscles of deglutition. On the second day the paralysis increased, and extended to the right side of the face. This was followed quickly by paralysis of the left side of the face and right sixth; and on the same day less pronounced paralysis of the neck and upper arm muscles, also of the thoracic muscles, was noticed. The lower extremities were normal, but on the fourth day the left knee reflex disappeared, and the left Achilles jerk was difficult to elicit. Death occurred on the fourth day under signs of paralysis of the intercostals and diaphragm.

The second case is that of a young married woman, æt. 19. At first there was difficulty in diagnosis owing to hysterical symptoms. The patient had married against the will of her father, and on return from a three weeks' wedding journey she complained of a "furry" sensation and weakness in the feet. An interview with her father caused mental shock, and complete paralysis followed. This was thought to be hysterical paralysis, but it was discovered that the patellar and Achilles reflexes failed. Pain in the dorsal vertebræ pointed to a dorsal caries. In rapid succession, the paralysis involved the muscles of the trunk, of the arm, face, and soft palate. Diplopia was a passing symptom. At the extremities, there was "furry" sensation and hyperæsthenia, also a progressive ascending motor paralysis. The crisis was reached on the ninth day, and from that time there was gradual lessening of the paralysis, beginning with the last affected muscles. In spite of better movement, there was muscle atrophy and reaction of degeneration. This was accompanied neither by sensory disturbances nor by fibrillary twitchings. In the twelfth week movement had almost completely returned. In the fourteenth week the atrophy of the muscles had disappeared and the electric reactions were normal, although there was a certain weakness of the trunk and foot muscles, and the patellar and Achilles reflexes could not be elicited. The treatment was ergotine, warm baths, and galvanisation.

HAMILTON C. MARR.

Family Infantile Cerebral Disease [*Ueber Familiäre Infantile Cerebralerkrankung*]. (*Neur. Cbl.*, Nr. 21, 1908.) *Malaisé, E. v.*

A cerebral disease which affected six children in a family of nine is described. The parents are evidently of the working class, and are second cousins. There is no evidence of hereditary taint. Nervousness was noted in the mother and exaggeration of the patellar reflexes, but it is pointed out that neurasthenia in a woman who for years has led a strenuous and distressful life is not extraordinary. The parents are temperate; there is no history of any bodily disease, and the births of all the children were normal. The ages of the nine children range from thirteen to three years. Six of them contracted a fever when two or three years old, without loss of consciousness or convulsions. Until that age the development of the children was healthy. They were able to walk and speak normally. A short time after the attack of fever they showed difficulty in walking. This in one case disappeared, but in the others it developed into complete inability to walk, and the condition of *pes equinus*. Gradually the arm muscles became stiff, and this stiffness was accompanied by athetoid movements, and in three

cases loss of speech and intelligence followed, with evidence of difficulty in swallowing. The arms of the youngest affected child are still healthy. One child, who showed signs of cachexia, died at the age of twelve. Another died of measles before the cerebral affection had reached its height.

In several of the cases, Babinski's and Oppenheim's phenomena are present, and in one case there is a noteworthy paleness of the pupils. The youngest child could not be examined, but the parents say it is healthy.

In all the affected children still living, except Case 6, which shows only Babinski's and Oppenheim's signs, there is an abnormal condition of the thyroid glands. In the eldest child this takes the form of almost complete hypoplasia; in the second case there is an excessive enlargement of the glands on both sides; in the third case they are very badly developed. In the healthy child the glands are normal.

A point to be noted is the manner in which the disease, after having attacked the legs, extends to the arms, which soon show athetoid movements, and then gradually affects the speech and intelligence. These symptoms are unusual in the ordinary course of infantile cerebral paralysis, and have similarity to the symptoms in Oppenheim's pseudobulbar paralysis.

It is doubtful whether there is a connection between the disease of the brain and the anomalies in the thyroid glands. It can easily be understood that an atrophy of the gland might be caused by the disease of the brain, but this contention is invalidated by the fact that hypertrophy, which is relative to hyperplasia, was found in one case. On the other hand, it is not impossible that the anomalies of the gland, *i.e.*, its hypo-function should lessen the resistance of the brain, and especially of the pyramidal tract, against the "unknown toxin" which plays such an important part in infantile cerebral paralysis.

HAMILTON C. MARR.

Hysterical Deaf-Mutism [Ueber Hysterische Taubstummheit]. (Neur. Cbl., 1908, Nr. 23.) Laquer, L.

The case of Hermann B—, student, æt. 32, is described. The patient had got into trouble with a teacher at the training college which he was attending, and as a result gave up home study and acquired idle habits. He was not addicted to alcohol. For three months previous to the sudden onset of his illness he had been in the habit of drinking only a very small quantity of cider. One day, after with great difficulty climbing a tree to reach a nest, he gained the ground in an exhausted condition, became unconscious, and perspired excessively. He had to be supported on the way home, and was given a small quantity of cider to drink, which caused an inconsequently severe intoxication. When he returned home his condition caused anger among his relatives—so much so that one of them bound him hand and foot and gagged his mouth. In breaking a pane of glass he injured his hand, and there was a very considerable loss of blood. His excitement ended in a deep sleep, lasting for three hours. On awakening he sprang suddenly out of bed, but fell at once to the ground in an unconscious condition. When he regained consciousness, after an hour,

he was unable to hear or to speak. After fourteen days he could hear very loud noises. He came under Dr. Laquer's treatment nineteen days after the onset of his deaf-mutism. A thorough examination showed that there was no question of simulation. There were no marked somatic changes, and reaction to light and accommodation was good. No psychical derangement could be discovered. Dr. Laquer decided that the case, which he diagnosed as a severe form of hysteria, should be treated, not by hypnotic, but by "suggestive" treatment. He assured the patient that he would soon be cured of the effects the fright had produced on his nervous system, and able to return to work. Dr. Laquer then began to teach him to speak, in the same manner as the dumb who can hear slightly are taught, *viz.*, vowels, consonants, syllables, words, and then sentences are shouted into the ear of the pupil, who, with his hand on the larynx of the teacher, repeats what is said. Strong faradisation of the tongue, once applied, and external vibratory massage of the larynx, were used only as suggestive auxiliary treatment. On the third day of the treatment the patient began with trembling lips to stutter out a few syllables; later he could read aloud single words, and on the sixth day he heard noises, such as that of the traffic on the street. After three weeks his ability to hear and speak was completely restored. A doctor who examined his ear found that there was chronic middle-ear catarrh on the left side. The patient has remained free from disturbances of hearing and speech. He has slight neurasthenic symptoms, and an extreme dislike to alcohol.

Similar cases of deaf-mutism of hysterical origin are described briefly by Dr. Laquer. They are taken from German, French, English and Italian literature.

Dr. Laquer is very much opposed to treatment by hypnotism, which is greatly upheld, he says, by many doctors. It was not required in the case described, and in the course of twenty-eight years' practice as mental specialist Dr. Laquer has not found the absolute necessity for hypnotic treatment. He has done very well without it, and he even believes that its use is not free from danger. He agrees with Lebermeister, who says, "It is easier by hypnotism to make a healthy man hysterical than it is by the same means to effect a lasting cure for hysteria."

HAMILTON C. MARR.

Diagnosis of Interpretational Insanity [*Diagnostic du délire d'interprétation*]. (*Rev. de Psychiat.*, Jan., 1908, No. 1.) *Sérieux and Capgras*.

In this critical review the authors point out the diagnostic features of interpretational insanity. This special form of insanity has been criticised by other French authorities, who point out that the facts were known long before they were used and ultimately classified as interpretational insanity by Drs. Sérieux and Capgras. In particular the work of Falret is cited to support the views of the critics. The authors agree that symptoms of interpretational insanity have been included by Falret in his insanity of "revendication," an insanity based on fixed ideas. They point out, however, that Falret did not recognise their contention that the mental conditions in these two affections were essentially different, as the following table shows:

Insanity of "Revendication."

- (1) A chronic passionate delusional state.
- (2) Erroneous interpretations rare and limited, secondary and accessory.
- (3) A prevailing and fixed idea, localised in a known fact, or abstract theory.
- (4) Ideas of prejudice, without bodily persecution.
- (5) Exaggeration of self without megalomania.
- (6) Prevailing subject plausible.
- (7) Permanent intellectual excitement.
- (8) Reactions out of proportion to their motive.
- (9) Numerous stigmata.
- (10) Frequent anomalies of character and moral sense.
- (11) Slight extensure without change of nature.
- (12) Possibility of improvement and cure.

Interpretational Insanity.

- (1) A chronic maniacal condition.
- (2) Insane interpretations are many and varied, primary and predominant.
- (3) Varied insane ideas, united only to constitutional tendencies. The delusion is secondary.
- (4) Ideas of persecution very active.
- (5) Systematised ideas of grandeur.
- (6) Falsity and sometimes marked unlikeness of interpretations.
- (7) Activity normal.
- (8) Reactions in direct relation to their motives.
- (9) Stigmata of degeneration little accentuated and single.
- (10) Preservation of moral sense.
- (11) Progressive extensure of insanity, change of external (objective nature).
- (12) Incurable.

HAMILTON C. MARR.

On the Symptoms and Aetiology of Dominant Ideas and Hallucinations and their Relations to Hysteria [Zur Klinik und Aetiologie der Zwangserrscheinungen, über Zwangshallucinationen und über die Beziehungen der Zwangsvorstellungen zur Hysterie]. (Arch. f. Psychiat., Bd. 44, H. 1.) Thomsen, I. R.

This article comprises fifty-eight pages, and the text is supported by eleven cases, which are well reported. We give a *resumé* of the first: A married woman, æt. 24, with no children, in fairly good health and circumstances, somewhat capricious and sensitive in disposition, began to be troubled with a dread of microbes and frequent headaches. She was distressed at the illness of her mother, and had a violent quarrel with her mother-in-law, after which she began to be possessed with fixed ideas, one of which was the desire to die before her husband. She felt impelled to count everything, and to do all actions thrice over. If she went to a drawer she must open and shut it three times; if she met with any such word as "decease" or "mourning" she must substitute another word, which she repeated three times. Sometimes she used multiples of three, as nine and twenty-seven. She disliked to meet words beginning with "d," and had a marked preference for certain colours. To her, red meant pleasure, green hope, and black sorrow.

If she were bringing her mother a glass of milk, on encountering something red or green she would stop and let her mother wait. She did not wish to see her husband on the 13th of the month or on a Friday. She would take hours to dress herself, occupying her mind in counting many things. If interrupted so as to lose count, she would begin again. She could not carry on a conversation, her thoughts being occupied with counting. Her appetite fell off, and she became lazy and apathetic, lay in bed, and would not wash herself.

Being admitted into a sanatorium, she soon began to improve, and made a complete recovery in six weeks.

Dr. Thomsen observes that those who fall under this form of derangement come from neurotic families, and are naturally sensitive. The whole affection has an emotional basis. Sometimes the exciting cause is a painful occurrence.

Such fixed ideas may accompany certain forms of insanity, but they often form a disease *sui generis*, having well-defined symptoms, sometimes following neurasthenia or hysteria. These fixed ideas may be confirmed into delusions or hallucinations. Similar affections have been described by French authors under the title of "obsessions, *folie de doute*, and psychasthenia," but he considers that Westphal's views on the subject are more correct.

WILLIAM W. IRELAND.

4. Pathology of Insanity.

Histological Changes in the Cerebellum in General Paralytics [*Die Histopathological Veränderungen des Kleinhirns bei der progressiven Paralyse, etc.*]. (*Jahrb. f. Psych., H. 1 and 2; Allg. Zeits. f. Psychiat., Bd. 64, H. Lit.*) Sträussler.

Sträussler has made some thorough-going researches into the lesions in the cerebellum of paralytics—a subject which has hitherto received little attention. In every case examined, he has found extensive alterations both in the membranes and in the nerve-cells. The deepest alterations were found in the cells of Purkinje and the cells of the superficial laminae, while the cells of Golgi seem to have escaped. The axis-cylinders of the fibres and the cells of the glia were also found affected. The vessels of the cerebellum showed little change. Some parts of the organ, as the tonsils or amygdaloid lobes, were found to have escaped more than others. There was a constant relation between the impairment of motor functions and the degree of alteration in the cerebellum. This was well exemplified by the cases of juvenile paralysis, in which the loss of motor power is more marked than in general paralysis of adults.

WILLIAM W. IRELAND.

Contribution to the Pathology of Pellagra [*Zur Pathologischen Anatomie du Pellagra*]. (*Allg. Zeits. f. Psychiat., Bd. 45, H. 4.*) Lukács and Fabinyi.

This gives a study of three cases of pellagrous insanity from the Klinik for Nervous and Mental Diseases at Kolozsvár in Hungary. The authors inform us that pellagra occurs in some villages of Transylvania. The causes are the same as in Lombardy, but the disease is not so prevalent.

It seems to be commoner with the Roumanian, though there are scattered cases with persons of other nationalities. Although there is no doubt that there is a close connection between the use of maize bread and pellagra, the authors consider that the ætiological question is not yet solved. Majocchi claims that he has found bacteria in the blood of the pellagrous—forms of penicillium and aspergillus which produced different toxic effects. The disease is observed to be most virulent in the spring. The authors describe three cases of pellagrous insanity, with *post-mortem* examinations. Pellagra is clearly the result of a chronic intoxication, but the symptoms are various, and it is difficult to reduce them to one type. They reject Tuezek's view, that it is mainly a disease of the spinal cord, and consider that the failure of the patellar reflex may be owing to the loss of tone of the muscles. They regard this enormous muscular weakness as the characteristic symptom of pellagra. They, however, admit that tabetic symptoms are very common.

The result of the sections is given at length. The membranes were little changed. The arteries, considering the age of the patients, might be held to be unaffected. In all the three cases, the central canal of the spinal cord was much altered; in two, it was entirely obliterated, and in all of them there was proliferation of the glia of the commissure. While the nerve-fibres of the brain, cerebellum, and medulla were unaffected, there was a grey degeneration of the columns of Goll. The lesions of the spinal cord of the pellagrous cases differ from those in tabes, that in pellagra they are mainly to be found in the cervical portion and the Lissauer zone is unaffected. The cells of Clarke's column are degenerated in a high degree. The nerve-cells of the pyramidal layer were unaffected. In the deeper layer, especially the layer of the polygonal and spindle nerve-cells, the nuclei were discoloured; black granules were sometimes to be seen in the nucleoli. There was also a notable increase of the neuroglia surrounding the cells. The degeneration was most marked in the central gyri. In general, the motor ganglion cells were more affected than the sensory ones. This was also noted by Babes and Marinesco. In the subcortical ganglia the proliferation of the nuclei and the alterations in the nerve-cells were less marked. The cerebellum did not appear to be affected. The dark colour given to the complexion, which marks the pellagrous cachexic may be explained by the complication of the disease of the supra-renal capsules.

Altogether, the alterations in the nerve-centres in pellagrous insanity resemble intoxication with ergot, mercury, or aconite, which may be produced artificially.

WILLIAM W. IRELAND.

Comparison of the Cerebral Surface in General Paralytics and in Normal Persons [*Vergleichung der Hirnoberfläche von Paralytikern mit der von Geistesgesunden*]. (*Allg. Zeit. f. Psychiat.*, Bd. 65.) Näcke, P.

The author here continues his investigations into the question of a congenital degenerative element in general paralysis by bringing forward observations made some years ago on forty-one brains of general paralytics as compared with fifteen brains of sane persons from the hospitals. The average number of anomalies was found to be nearly the same (between nine and ten per brain) in both groups, so that no

point was hereby made for Näcke's doctrine. He remarks that he was evidently unfortunate in his "normal" subjects, whose normality in a town hospital is often a dubious quantity. When, however, the more serious abnormalities are alone taken into consideration, the significant fact is revealed that they decidedly preponderate among the paralytics. The chief interest of the paper lies in its various incidental discussions, all directly or indirectly tending to confirm the author's belief that while syphilis is an almost invariable exciting cause of general paralysis, it can only act on a congenitally invalid brain. He concludes, therefore, with Obersteiner: *Paralyticus nascitur atque fit*.

The author points out, by way of corollary, that the question of prophylaxis thus becomes a very large one. "The alienist must, more than hitherto, occupy himself with sociological matters, and especially with the improvement of the race, for since such improvement is synonymous with the limitation of psychic and nervous diseases, it demands his special attention."

HAVELOCK ELLIS.

5. Treatment of Insanity.

Experimental Observations into the Etiology and Treatment of Paresis.
(*Amer. Journ. of Insanity*, July, 1908.) O'Brien, John D.

In another part of this "Epitome" an abstract is given of a paper by A. Marie in the *Revue de Psychiatrie*, recording some investigations that have led him to conclude that the *Bacillus paralyticus* of Ford-Robertson and MacRae is *not* the specific cause of paralytic dementia. In a paper read at the last annual meeting of the American Medico-Psychological Association, O'Brien, Pathologist to the Masion State Hospital, Ohio, reaffirms his belief in the specificity of the organism in question; he has been able, he says, in a great many instances to confirm Ford-Robertson's observations, and to add considerable evidence in support of his theory.

O'Brien examined the blood, the cerebro-spinal fluid, and the respiratory and alimentary tracts of living paralytic demented. During the congestive seizure, in five cases, from blood taken from the basilic vein, the *B. paralyticus* has been isolated. In three cases, pure cultures were found. The cerebro-spinal fluid was examined in sixty-two paralytic demented; in 70 per cent. of these the *B. paralyticus* was isolated. In several cases, the recovery of the organism was repeated. In four cases the only contaminating organism present was a diplococcus, which grew poorly. In conjunction with the above, and as a control investigation, thirty cases of different types of insanity and various nerve affections were examined, and in none of these cases was the *B. paralyticus* found. From the respiratory tract the *B. paralyticus* was isolated in 95 per cent. of the cases of paralytic dementia and in less than 2 per cent. of the other insanities. The possibility that these exceptional instances (forming the 2 per cent.) were cases of incipient paralytic dementia must not be forgotten. In the stomach-wash from fourteen paralytic demented, who had previously fasted for twenty-four hours, eleven cases contained enormous numbers of micro-organisms, the *B. paralyticus* predominating.

Inoculation experiments with the *B. paralyticans* were made on white rats, dogs, and goats; all the animals subsequently exhibited characteristic symptoms, varying from drowsiness, stupor, muscular irritability, ataxia, reeling and stumbling gait, and partial paralysis, up to congestive seizures and death. In the brain of one of the goats and two of the dogs were found cortical changes closely resembling those found in early stages of paralytic dementia. In one instance, during a congestive seizure, the organism was recovered from a vein of the affected dog, and successfully grown again. The virulence of the organism can be increased by passage through a series of dogs; also by growth on a recently devised culture-medium containing a certain percentage of cerebro-spinal fluid. Further details are given of experiments in the use of an anti-serum; of the injection of vaccines made from the *B. paralyticans*, isolated from the patient and injected under the guidance of the opsonic index; and finally of a method of combined active and passive immunisation. Summarising the results of his observations and experiments O'Brien writes:

"We are led to believe that general paresis is a bacterial infection, and that the *B. paralyticans* is the chief ætiological factor, as evidenced by the experimental inoculation of animals with material obtained from cases of paresis and the successful production of a train of symptoms and the pathological picture similar to that of paresis. The protection afforded animals by the use of a bacteriolytic serum lends colour to the fact that an anti-serum will undoubtedly play an important part in the treatment of this disease. This fact is, we believe, further corroborated by the improvement actually observed in certain cases thus treated. Out of eighteen cases under treatment eight have shown considerable improvement. At present we believe the combined treatment to be most effective."

M. EDEN PAUL.

The Use of Isopral in Insane Patients. (*Rev. de Psychiat.*, Oct., 1908.) Vallet, A.

Isopral is a hypnotic belonging to the chloral group of drugs. It has hitherto been little used in France. Chemically it is a tri-chlor-isopropyl alcohol; it is in the form of prismatic crystals, readily soluble. After giving details of its employment in more than twenty cases of mental disorder the writer summarises his results as follows: The drug is a useful auxiliary to chloral and one which patients take readily; it induces tranquil sleep. In the doses employed no influence on pulse or temperature was observed, and there were no unpleasant symptoms of any kind. At first it was given in doses of from four to eight grains, but these were found to be rather too small. It may be given without anxiety in an initial dose of ten to fifteen grains.

M. EDEN PAUL.

A "Protective Bed" for Insane Patients in States of Excitement [*Ueber ein "Schutzbett" fuer erregte Geisteskranke*]. (*Psych. Neurol. Wochens.*, Oct. 10th and 17th, 1908.) Walter, F. K.

One of the greatest difficulties which confronts the alienist in the practical discharge of the duties of his calling is the care of the insane when in a state of motor excitement. A human being in a state in which

words have ceased to influence him is to have his urgent tendency to excessive movement checked, and this as far as possible without resort to force. Had we any "chemical means of restraint" the employment of which brought no evil in its train, the difficulty would be at an end; the only force employed would be that required for the administration of the drug. But the "chemical strait-waistcoat," as at present available, entails disadvantages and dangers no less serious than those entailed by the mechanical strait-waistcoat.

In considering what is called "mechanical restraint" we must, of course, always distinguish clearly whether the mechanism employed forcibly restrains movements which the patient actually attempts to make, or whether, on the other hand, it so influences the patient that he no longer attempts to make the movements. In the former case only have we true "mechanical restraint"; in the latter case, though the restraint is ostensibly mechanical, we are really quieting our patient by psychical means. Those who reject with horror all possible means of mechanical restraint will be found, on close inquiry, to be those who entirely fail to recognise this profoundly important distinction. Of course we must not forget that the same means will act on different patients in different ways, so that what is to one patient real mechanical restraint may to another be a psychical calnative. The despised strait-waistcoat itself may often enough be a true psychical calnative.

After discussing certain alternative modes of dealing with excited patients—the continuous bath, the wet-pack, and the isolation-cell—Dr. Walter goes on to describe the new "protective bed" designed by Dr. Wolff (a great improvement upon some which have to a small extent been previously employed), which has recently been extensively utilised in suitable cases at the asylum at Basle. Imagine a child's "crib" magnified to the scale of a full-size hospital bed. The sides are twenty inches high, the head and foot fifty inches high. *Inside* the iron bars forming the sides, head, and foot, is attached a fine-meshed wire netting. Hinged to the top bars of the sides are two additional frameworks of iron bar and wire-netting, thirty inches wide, which can be swung inwards between head and foot, to meet in an inverted V and form a roof to the bed. The lever-mechanism which controls the working of these flaps is, of course, outside the foot of the bed, so as to be inaccessible to the patient. The side flaps can be worked independently of each other. They can be turned right down outside, so as to leave an open, low-walled crib; they can be extended vertically upwards, so that the sides of the crib become fifty inches high; they can be fixed leaning towards each other, but with a gap about three inches wide along the "roof," reaching from head to foot; or, finally, can be fixed in contact, so that the roof is entirely shut.

It will be seen that this bed occupies an intermediate position between the isolation cell and the strait-jacket, while avoiding the disadvantages of both. The patient remains in bed, under continual observation in the ward, and in human companionship; thus are at once avoided all the dangers of the isolation cell, and the protective bed should be preferentially employed in all cases in which the isolation cell would otherwise be requisite. Here we have in view, above all, all patients dangerous to others; all "criminal lunatics" and all "insane



A "protective bed" for insane patients in states of excitement.
(Dr. Wolff's.)

TO ILLUSTRATE EPITOME BY DR. EDEN PAUL.

criminals" in states of maniacal excitement. The protective bed leaves the patient the comparatively free use of his limbs; he cannot, indeed, stand or walk, but he can lie or sit at pleasure, and can move his arms and legs freely. Of course for those who would bite themselves, tear their own flesh, or destroy their own eyes, even this small measure of freedom is impossible; but such cases are extremely rare.

Besides all these patients, dangerous to themselves or others, there are a great many others in every asylum suffering from motor excitability for whom the protective bed is most useful—patients who should be kept in bed, but whom it is difficult or impossible to keep in an ordinary bed, such as katatonic patients with negativism, senile dement, patients in confusional states, etc. With such as these it is often unnecessary to close the bed completely; it will be found sufficient to use it in its form of a high-walled crib.

In actual practice, during two years at the Basle asylum, a number of these beds have been employed, with results which have not disappointed the expectations formed on theoretical grounds. One of the most interesting results of experience in their use has been that—altogether apart from the indication furnished by motor excitability—in patients suffering from anxiety, especially in connection with hallucinations, treatment in the bed has had a calmative effect, because the patient felt relieved from the source of his fears.

In all, in one year the beds were used for 72 patients, the cases being classified as follows: dementia præcox, 36 cases; mania, 6; melancholia, 3; paralytic dementia, 7; senile dementia, 6; alcoholism, 5; epilepsy, 6; hysteria, 3. Of these, 30 were males and 42 females; the average number of patients in the asylum was 290. The number of protective beds in use was at first two, but during the latter half of the year was increased to eight. The number of individual applications of the beds was of course considerably greater than the number of patients, since many of the patients had periodical attacks of motor excitement, but in the quiet intervals these occupied ordinary beds.

Of all the patients for whom the beds were used, three only made serious efforts to get out. Of the others, a comparatively small number, about a third of the women, remained restless and noisy in the bed, and a much smaller proportion of the men were similarly affected. On all the other patients, that is to say on the very large majority, the calmative effect of the "protective bed" was most marked from the beginning of their confinement in its interior, that is, in these cases it was not "mechanical restraint" in the narrower sense of the term; the bed acted as a psychical calmative agent. There was not a single case in which confinement in the bed appeared to be the direct cause of increased excitement and noisiness.

A detailed description of the effect of the treatment is given in a number of cases, and a few of these may be briefly summarised.

F. S.—, æt. 21, katatonia. The patient was always put in the bed when his attacks of excitement came on, for he then became extremely violent, screamed, swore, and spat. The quieting effect of the bed was instantaneous. While in his ordinary bed, he was held with difficulty by three attendants, making all the time a horrible noise; on being put into the protective bed he at once lay quite still, and ceased to shout.

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Although the bed was often employed for these attacks, the patient never definitely resisted being put into it.

A general paralytic with hallucinations and maniacal excitement was kept in the bed for four months. As he had then become quieter, and the bed was wanted for another patient, the paralytic was removed, much against his will, to an ordinary bed. When the patient who had dispossessed him was taken out for a few minutes to go to stool, the first patient climbed into the protective bed and closed the roof himself!

Three other patients begged to be put back in the protective bed after having been taken out. One of these was a reputed paralytic dement with stuporose anxiety consequent on hallucinations. In another patient, a paranoidal dement, the calmative effect of the bed was most marked, evidently because when in it he was no longer afraid of the other patients.

An additional advantage of the protective bed is that by its means the advantages of "rest in bed in the open air" can be given even to excited and aggressive patients. In violent cases which for one reason or another have to be treated in private houses, the possibility of using the bed to advantage is also obvious.

[It must not, however, be forgotten that the possibilities of such an appliance being misused are greater in a private house than in a public institution.]

Dr. Walter concludes with the hope that other institutions will give the protective beds a trial, and that by their use the need for the employment of isolation cells and of hypnotics will be diminished. Many, indeed, will be inclined to condemn the protective bed *à priori* as simply a new means of "mechanical restraint," and will regard its use as a revival of antiquated methods long since justly abandoned. He hopes, however, that he has brought forward sufficient theoretical justification for the use of the protective bed, and considers that if it is to be condemned this condemnation must be based on further actual experience of its use.

M. EDEN PAUL.

Asylum for Special Treatment [Das Bewahrungshaus]. (Psych. Neur. Wochens., No. 37, 1908.) Wickel, C.

The building of a special house for the care and treatment of criminal lunatics seem to Dr. Wickel to be the best provision that could be made for dealing with this class. These houses, he says, are becoming more popular, and he names Buch, Langenhorn, and Neustadt i. H. as places where they have been erected.

The morally insane and degenerate are suitable patients.

The points to be observed in building are :

- (1) The house should be secure from access and egress.
- (2) It must be planned in divisions to accommodate small groups of patients likely to live agreeably together.
- (3) One or two small day-rooms, which can be observed from without, are necessary to accommodate about four patients each, during temporary periods of excitement, ill-humour and bodily illness.
- (4) A single room should be provided for each patient.
- (5) Work-rooms or shops are necessary.

(6) The accommodation should not be for more than forty or fifty patients.

(7) The building and entire construction may be reckoned at 200,000 *m.* (about £9,834).

The number of patients suitable for treatment in such a building is proportionately small. The building should therefore be annexed to a larger institution, and if two or more such houses are necessary they should be conjoined with two or more of the larger asylums.

The author advises that insane criminals should be placed in these buildings until after expiration of sentence, when they may be sent to ordinary asylums, but he perhaps overlooks the fact that the "Bewahrungshaus" is specially planned to accommodate patients suffering from a particular mental disease. It is intended for a class of patients which, although undoubtedly very frequent in prisons, cannot be said to comprise all the criminal insane.

HAMILTON C. MARR.

6. Sociology.

The Cranio-Facial Type in 300 Homicides [*Il Tipo Cranico Facciale in 300 Omicidi*]. (*Arch. di Psichiat.*, vol. xxix, fasc. iii, 1908.) Ascarelli.

The word "type" has played a large and not always a very illuminating part in the theories of criminal anthropology, the somewhat vague and uncertain sense of the term having given an opening to hostile critics of which they have not been slow to avail themselves. Undeterred by this discouraging history, Professor Ottolenghi has recently taken up the question again, and has propounded a classification based on the general characters of the cranio-facial configuration, and applicable not only to criminals but to all sorts of individuals. He recognises eight types: (1) The common type, or that of the average specimen of the given community; (2) the inverted type, either as regards age, being then infantile or senile, or as regards sex, as in cases of feminism and masculinism, or as regards ethnic character exemplified by the Mongolian and the Negroid varieties; (3) the refined type, approaching the feminine; (4) the rough type, being the opposite to the last named; (5) the inferior or regressive type, with traits of presumably pre-human character; (6) the asymmetrical type, of pathological and degenerate origin; (7) the anti-eurythmic type, characterised by the excessive development either of the cranial or the facial segment; and finally (8), a group of special pathological types, comprising cretins, dwarfs, giants, etc. Mixed types are, of course, admitted also.

Working with this classification, a pupil of Ottolenghi, Dr. A. Ascarelli, has examined a series of three hundred photographs of homicides from various regions of Italy, and in the present paper he records the result of his study of their characteristics. He finds that Ottolenghi's common type is the most largely represented, 40·3 *per cent.* of the faces being assigned to it; next comes the inferior type with 20·3 *per cent.*; then the anti-eurythmic with 12·6 *per cent.*; and lastly, the asymmetrical with 7·3 *per cent.* It is interesting to note that the "type with a criminal expression," which apparently represents the famous "*reo nato*,"

was only recognised in 11·3 *per cent.* of the photographs. The subjectivity of the method inspires some doubt as to the value of the results.

W. C. SULLIVAN.

International Inquiry Concerning Insanity in Prisons [*Enquête Internationale sur l'Aliénation Mentale dans les Prisons*]. (*Rev. de Psychiat.*, Feb., 1908.) Pactet.

Dr. Pactet, whose name has been associated with a campaign in France in favour of the Belgian system of alienist inspection of prisons, gives in this paper the results of an inquiry which he has made by means of a *questionnaire* sent to prominent psychiatrists in various countries regarding the frequency of cases of insanity amongst the inmates of gaols. The queries, which were rather numerous, dealt chiefly with the alleged failure of the medical service in prisons to recognise insanity in its early stages, and with the value of the Belgian system as a remedy for this evil. The replies of seventeen alienists are given, apparently *in extenso*, but it is not quite clear how many of the correspondents have any special experience with reference to the points at issue. They are in substantial agreement, however, as to the excessive frequency of unrecognised insanity in the prison population, and it is recognised by all of them that training in psychiatry ought to be an essential qualification for prison doctors; but there seems to have been some divergence of opinion as to the utility of the Belgian system of peripatetic psychiatrists, which most of Dr. Pactet's correspondents appear to know only by repute. It is perhaps significant that, according to Dr. Jules Morel's letter, this system has suffered some contraction in the country of its origin, the number of alienist inspectors having been recently reduced from three to two, and their quarterly survey of recidivist prisoners having been discontinued.

W. C. SULLIVAN.

The Question of "Responsibility" [*Responsabilité ou Réactivité*]. (*Rev. Phil.*, June, 1908.) Lauppts.

In this paper the author, well known as a psychologist and criminologist, brings forward a number of interesting considerations regarding the debated question of "responsibility" and alternative conceptions. He is very decidedly opposed to the medical use of the term, and expresses himself on this point with much frankness. "One could write a volume on the foolish things which have been put forward by certain medical men on the question of 'responsibility'; such men degrade medicine by bending it to an end to which it ought not to be directed." "Responsibility" is not a clinical symptom, and the word should never be heard from the lips of an expert, even apart from the fact that, judging from the opposite results reached on the matter in individual cases, the question of "responsibility" or "irresponsibility" would often seem to be, as the late Dr. Garnier put it, a matter of heads or tails.

The author is not, however, content with merely destructive criticism. If the conception of "responsibility" is not scientifically tenable, and should therefore never be employed in medicine, what test should be applied in its place? In modern societies, Lauppts believes, there is

only one principle which can be applied—the necessity of reaction against anti-social facts. That is what he means by “réactivité.” The metaphysical notion of “responsibility” and punishment must give place to the physiological notion that every organism, including society, must make use of its reactions of defence. It must defend itself against the insane fully as much as against the sane, and a serious danger is involved in the tendency to let the “irresponsible” go free. Institutions must, of course, be varied to suit the various classes of anti-social persons, with officials, teachers, and doctors appropriate to each type. “‘Prison’ is only a word, ‘asylum’ is only a word; in practice prisons may take on the functions of asylums and asylums those of prisons.” The question of the special grade of institution in which a prisoner should be “condemned to treatment” ought to be decided, Lauppts considers, by a special mixed court of trained magistrates and doctors.

HAVELOCK ELLIS.

The “Responsibility” of the Insane and Criminal [*Sur la “Responsabilité” des Fous et des Criminels*]. (Rev. *Phil.*, Sept., 1908.)
Chaslin, P.

Among the minority which, at the Congress of French Alienists in 1907, refused to accept Ballet's declaration that the question of responsibility is not a medical question, Professor Grasset, of Montpellier, took a prominent position. He has since published a book (*La Responsabilité des Criminels*) in which he reaffirms his position. Responsibility in the moral or the metaphysical sense, Grasset admits, is outside the medical field. But he claims that there is such a thing as “medical responsibility.” Whenever the psychic neurons retain their integrity, there, Grasset claims, we have “medical responsibility.”

Dr. Chaslin takes advantage of the appearance of Grasset's book to set forth his own views as a practical alienist with a large experience of the cases that oscillate between the asylum and the prison, and, therefore, constantly called on to face this question of “responsibility” from its “asylum side.” He brushes aside Grasset's contention as an unjustifiable perversion of a term already having a recognised meaning in order to invent a new and unsatisfactory way of saying that an individual is psychically normal, the sole object being apparently to drag in the word “responsibility” where it is not required. The question thus becomes, as Joffroy remarked, merely a verbal quibble.

Chaslin is in complete agreement with Ballet that the medical expert must remain medical and confine himself to the use of medical language. But he realises at the same time that the alienist cannot fail to be practically interested in this question. What is really needed, he believes, is an entire re-moulding of the penal system, abolishing the ancient tariff of punishments, but enabling the influence of fear to be brought to bear on all those, including the insane, who are susceptible of being thus ameliorated. Individualisation of treatment is required, and this involves a very wide latitude of decision in the magistrate. It is therefore necessary that an alienist should be associated with the magistrates as an indispensable collaborator. But the part of the medical expert must not be misunderstood. He can seldom furnish scientific certainties. “Medicine is not a science but an art”; this is

especially true in mental medicine ; it is, above all, a knowledge of men and of life which makes the skilful clinician of the mind.

It will be seen that Chaslin believes, with Ballet, that punishment may be of therapeutic utility in the case of some semi-insane subjects. Such subjects, he remarks, often drift to-and-fro between the prison and the asylum, and are fitted for neither. They require an institution of intermediate character.

HAVELOCK ELLIS.

Castration on Social Grounds [*Die ersten Kastrationen aus Sozialen Gründen auf Europäischen Boden*]. (*Neur. Cbl.*, 1909, No. 5.) Näcke, P.

It is rare, in Dr. Näcke's experience, to find anything of scientific interest in an asylum report, and he joyfully calls attention to the Report for 1907 of the Swiss Cantonal Asylum at Wil. In this report are recorded four castrations performed on patients in the asylum on social grounds, the first cases of the kind, Näcke believes, that have ever occurred in Europe. The first case was a girl, æt. 25, epileptic and nymphomaniacal, who had had two epileptic and imbecile children. The nymphomaniacal tendency made necessary her retention in the asylum, though she was capable of work. She and her friends agreed to the operation, and she is now free, and working "satisfied with her condition." The second case was a woman, æt. 36, weak-minded and liable to attacks of excitement and over-mastering sexual desire. She was a skilful worker, but had had two children who were a charge on the community, which was, on this ground, opposed to her liberation. After the operation she was allowed to leave. In both these cases there was found to be cystic degeneration of ovaries. The third case was a man, æt. 31, physically vigorous, but psychically abnormal, and with morbid excess of sexual desire. He was placed in the asylum for observation on account of indecent assaults on minors. His general condition improved in the asylum, but the sexual excitement continued, and at his own urgent desire, and with the consent of his relations and the authorities, castration was performed. He has been guilty of no sexual offences since. The last case was a sexual invert, æt. 32, of a high grade of intelligence, but very strong sexual impulses ; on account of indecent conduct with boys he was sent to the asylum as irresponsible. For some eight years he was in and out of the asylum, always yielding, when out, to his abnormal sexual tendencies ; at last he urgently demanded castration. Since the operation he has so far felt no return of his abnormal impulses. There are no particulars concerning the exact nature of the operations.

Näcke, who has long regarded legal castration, with due precautions, as "one of the most beneficial institutions of the future," draws the moral of these cases, and points out the ease with which all concerned—patients, relatives, and the law—agreed to a step which was by no means demanded merely for the benefit of the patient, but primarily and chiefly for the benefit of society. Näcke is, however, in favour of confining castration on social grounds, for the present, to men, preferably by the method of vasectomy. He also wisely enters a warning against the belief that castration can permanently cure congenital

sexual inversion. [That point is illustrated by the instructive case recorded in this Journal, April, 1896.] HAVELOCK ELLIS.

Is Sexual Inversion Curable? [Ist die Konträre Sexualempfindung Heilbar]. (Zeits. f. Sexualwissenschaft, Dec., 1908.) Sadger, S.

It is held by many who have a wide experience in the matter (including Hirschfeld) that cases of homosexuality on a congenital basis can never be really and genuinely cured. The sexual acts can of course be modified but not the innate direction of the impulse; even hypnotism, it is now held, produces no permanent cures. Dr. Sadger, of Vienna, one of the ablest of Professor Freud's pupils, claims that by the psycho-analytic method, both in his own hands and Freud's, a real cure is possible, provided the patient is fairly young, anxious to become normal, and not highly degenerate.

Sadger brings forward the case of a student, æt. 21, having a maternal aunt insane; his mother and sister are boyish in appearance. He himself has broad hips and very little hair on face; as a child he only cared for girlish amusements. His sexual ideals on coming under treatment centred around masculine individuals and he was attracted to boys, but much troubled by this attraction. Treatment, Sadger recognised, could only be effectual by changing the ideal. Psycho-analytic treatment, however (being the reverse of hypnotic treatment), cannot put anything into the patient; its object is to bring to the surface what is already present in sub-consciousness. Now Sadger believes (with Freud) that—just as in hysteria there are, according to this doctrine, concealed sub-conscious emotions and ideas—there are in every homosexual person latent elements of normal heterosexuality. The homosexual person has gradually organised his memories and feelings around his dominant tendency, and has allowed the normal feelings and memories to lapse. It is the business of the psycho-analytic method to fish up, so to speak, these lapsed feelings and memories from sub-consciousness, and to give them their proper value and force in the patient's conscious life. At first the patient could recall scarcely any memories implying normal sexuality. Many such memories were, however, slowly recovered; the patient gradually realised that behind his masculine ideals there really lay concealed feminine ideals, and after four months' treatment he reached the normal point of view and finally became attached to a woman.

Sadger concludes from this case that (1) even the most intelligent persons seldom know themselves fully or possess reliable recollections; (2) that normal sexuality may really be predominant even in cases where inversion seems to be complete; and (3) that inversion has its roots in early childhood even though it may not become conscious until puberty. HAVELOCK ELLIS.

Statistical Inquiries regarding Recovered Epileptics [Statistische Untersuchungen über geheilte Epileptiker]. (Allg. Zeits. f. Psychiat., Bd. 65, H. 1.) Volland.

The elder physicians gave a bad prognosis for recoveries from epilepsy; a few, such as Odier and Trousseau, considered recovery

possible. More recently experienced neurologists, Binswanger, Gowers, Féré, and others agree that not only is epilepsy at an early age capable of a spontaneous and complete recovery, but that in later life there are a number of cases in which there has been a favourable result with and without treatment. No doubt the introduction of bromides into therapy had helped to improve the prospects of cure.

In his inquiry Dr. Volland used the statistics of the asylums for epileptics at Bethel, near Bielefeld. He regards it a case of recovery if the patient has passed a year without an epileptic attack.

He found that, from 1886 to 1901, 4,215 epileptics were received for treatment; of these 133 men and 112 women, 245 in all, were discharged cured. Attempts were made to follow up these patients, with a view of ascertaining whether the recovery was maintained. It was found that this was so in 54 of the men and in 29 of the women. Twenty-eight of the men and 21 of the women had renewed attacks, and 3 of the men and 3 of the women had suffered in intelligence without further epileptic attacks.

It is of some consequence to know the influence of sexual intercourse upon those who were thought to have recovered from epilepsy. Binswanger observed that in some cases the epileptic troubles were suspended during the period of child-bearing, only to break out with renewed violence and rapid mental decadence during the climacteric period. He had, nevertheless, observed other cases in which marriage and pregnancy had no unfavourable influence, and the young women, in spite of several births, escaped the epileptic attacks. Of the 21 women supposed to have been cured, and who had relapsed, 5 had married; but the epileptic attacks appear to have returned before the marriage. Of the 29 women who remained healthy, 10 had been married and 9 had borne children without any evil results. In the same case were two women who had illegitimate children.

Of the male patients who had renewed epileptic attacks, 10 had married, and only in two of these families did convulsions appear in the children. It was more unfavourable with the 5 women who had relapsed: convulsions appeared in three of these families; in the other two the children were healthy.

Convulsions appeared in the children of the families of the women who had no return of the epilepsy, and hydrocephalus in one family. The results were more favourable with the 20 men who, having no return of the epilepsy, had married. Five of these marriages were childless; in one family 2 children had died of convulsions; but the 4 other children were healthy. It would, however, be needful to follow the health history of these subjects for a longer period before regarding the sequel as complete.

It does not appear that moderate drinking had a bad effect on the health of the recovered male patients; 23 of them were abstainers.

Volland gives special mention to one case who, four years after the cessation of his epileptic attacks, received a blow from a log splintering the skull and laying bare the brain. Trephining had to be used. During the two years following the accident the young man has continued to improve in health both mentally and bodily.

WILLIAM W. IRELAND.

Part IV.—Notes and News.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

A QUARTERLY MEETING of the Association was held at 11, Chandos Street, Cavendish Square, London, W., on Tuesday, May 18th, 1909, under the presidency of Dr. Charles A. Mercier.

Present: Drs. T. S. Adair, H. S. Aveline, W. Bevan-Lewis, C. H. Bond, A. N. Boycott, J. Brown, L. C. Bruce, James Chambers, W. R. Dawson, J. F. Dixon, T. Drapes, F. W. Edridge-Green, J. A. Ewan, J. D. Greenlees, H. E. Haynes, R. D. Hotchkiss, J. W. Higginson, C. K. Hitchcock, G. H. Johnston, Robert Jones, W. S. Kay, N. Lavers, R. R. Leeper, H. W. Lewis, H. C. MacBryan, P. W. MacDonald, J. W. McDowall, H. C. Marr, M. E. Martin, W. F. Menzies, H. Hayes Newington, H. J. Norman, D. Orr, M. E. Paul, W. Rawes, H. Rayner, D. Rice, R. P. Rows, G. E. Shuttleworth, R. P. Smith, J. B. Spence, R. H. Steen, R. C. Steward, R. J. Stilwell, W. H. B. Stoddart, J. Turner, A. R. Urquhart, F. Watson, E. B. Whitcombe, D. Yellowlees.

The PRESIDENT said that the list of new candidates accidentally included the name of Dr. Graham Donald Campbell, who had already been elected by the Scottish Division, and therefore there was no need to duplicate the proceedings by electing him again that day, as no doubt the meeting would. The minutes of the last ordinary meeting had appeared in the JOURNAL, and it was customary to take them as read. That would be done. But since that meeting, an "extraordinary" meeting had been held, as was well known, and as the minutes of that meeting had not appeared in the JOURNAL, he would ask the Secretary to read them.

The SECRETARY (Dr. Hubert Bond) read the minutes of the Special General Meeting held on April 19th, and they were agreed to (see page 571).

The following candidates were elected ordinary members of the Association:—Beeley, Arthur, M.Sc.Leeds, M.B., B.S.Lond., D.P.H.Camb. (Assistant School Officer, E. Sussex Educational Committee), 7, Belle Hill, Bexhill-on-Sea, Sussex (proposed by A. G. R. Foulerton, H. Hayes Newington and C. Hubert Bond); Crowther, Sydney Nelson, M.R.C.S., L.R.C.P.Lond., Senior Assistant Medical Officer, Surrey County Asylum, Netherne (proposed by F. C. Gayton, James Moody and R. H. Steen); Gloyne, Stephen Roodhouse, M.B., B.Ch.Leeds, D.P.H.Lond. (Assistant Medical Officer, East Sussex Education Committee), The Downs, Southover, Lewes (proposed by A. G. R. Foulerton, H. Hayes Newington and C. Hubert Bond); Hunter, Douglas William, M.B., Ch.M.Glasg., D.P.H.Camb., Assistant Medical Officer, Royal Albert Asylum, Lancaster (proposed by Archibald R. Douglas, D. M. Cassidy and J. S. Farries); Myers, Charles Samuel, M.A., M.D.Camb. (University Lecturer in Experimental Psychology, Cambridge), Great Shelford, Cambridgeshire (proposed by W. H. R. Rivers, W. H. B. Stoddart and Robert Jones).

THE INEBRIATES ACT.

The PRESIDENT said a notice of motion would be found on the agenda paper stating "That in the opinion of this Association, legislation to amend the Inebriates Act is urgently necessary, and that such resolution, if carried, be forwarded to the Home Secretary." That resolution was placed on the agenda at a time when the fate of the new Bill to amend the Inebriates Acts, based on the Report of the Departmental Committee to consider those Acts, was hanging in the balance. The Bill had been drafted by the Home Office strictly on the lines of the Report of that Departmental Committee, and the condition of affairs was wavering as to whether the Bill should be brought in or not. He had it from a high authority that if there was any chance at all of the Bill being brought in, it might decide its fate one way or the other if as many representations as possible were sent to the Home Secretary in favour of the Bill. He had got resolutions passed by one or two other bodies, and put the present resolution, which he had read, on

the agenda for this meeting. That was done some weeks ago, and he was sorry to say now that the Bill was dead. The Bill was one which provided for a large number of beneficial objects, and he did not doubt that its machinery was such as to carry out those objects in the most efficient manner possible. But unfortunately, in order to fulfil its purposes, the Bill required the expenditure of public money; and he need scarcely remind members that the present was not altogether a favourable time for asking Parliament for any increased grant of public money for any purpose whatever. So he had been informed that the Bill was now dead, and therefore the same urgent need for sending in that resolution no longer existed. But at the same time, to send the resolution on would do no harm; it would lie in the hands of the Home Secretary, and when another Session of Parliament arrived perhaps the financial straits would not be so considerable, and the new sources of taxation which the Chancellor of the Exchequer had hit upon would yield in that profitable manner which they were expected to, so that there would no doubt be a surplus over for beneficial objects of that kind. And it was hoped that on some future occasion the Inebriates Bill would become the Inebriates Act. Therefore he would put the resolution on the agenda from the chair, and ask those who were in favour of it to signify their approval.

Dr. PERCY SMITH asked to be allowed to make one comment on the resolution. He thought they should stop at the word "necessary." He assumed they would all agree to it so far, but he regarded the last part as superfluous. If the main part of the resolution were passed, naturally it would be forwarded to the proper quarter, and it was not needed to keep in the other wording. He moved that all the words after "necessary" be left out, though perhaps it was largely a matter of form.

The PRESIDENT pointed out that the meeting could authorise the resolution being sent to the proper quarter.

Dr. YELLOWLEES asked whether the Bill as drafted included the power of compulsory detention, because he contended that without such a provision nothing was of the least use.

The PRESIDENT said it provided for compulsory detention for inebriates who were committed from the Court. But there was a battle-royal, he understood, among the drafters of the Bill as to whether provisions for the compulsory detention of what one might describe as private inebriates—those who had not been convicted of any offence—should be embodied in the Bill, or not. He thought eventually those who required such provision were defeated, and it was not included in the Bill. He did not speak authoritatively on the matter.

Dr. YELLOWLEES asked whether it would not be wise to add to the resolution words providing for compulsory detention of all inebriates. He considered that without such, no amount of legislation was of the least service in such cases. It was only a suggestion.

The PRESIDENT asked Dr. Yellowlees if he would definitely move that.

Dr. YELLOWLEES said he would be pleased to move it.

Dr. PAUL asked whether the Bill was put forward as a private Bill, or was the idea to bring it forward as a Government measure?

The PRESIDENT replied that it was a Government measure. He suggested the following wording to meet Dr. Yellowlees' motion:—"After the word 'Act' to insert 'including the power of compulsory detention of inebriates otherwise fitted for detention who have not committed offences against the law.'"

Dr. YELLOWLEES said those words would suit the case perfectly.

The PRESIDENT said the amended resolution would now read—"That in the opinion of this Association legislation to amend the Inebriates Act, including the power of compulsory detention of inebriates otherwise fitted for detention who have not committed offences against the law, is urgently necessary." It was scarcely necessary to go through the form of seconding the amendment, and he would ask those in favour of it, and of sending it to the Home Secretary, to signify their approval. Agreed.

PAPER.

Dr. JOHN TURNER read a paper entitled, "Observations on the Blood-Pressure and Vascular Disease in the Female Insane" (see page 418).

The PRESIDENT then exhibited for the inspection of members the Gurney Prize,

which had been awarded to him by the Royal College of Physicians. He reminded members that they had been good enough to offer, at the Cambridge meeting of the Association, their congratulations on the prize having been conferred on him; and, as he received it during his occupancy of the Presidential Chair, he considered it an honour conferred upon the Association as well as upon himself personally.

MINUTES

Of Special Meeting *re* Asylum Workers' Superannuation Bill held under the presidency of Dr. Charles A. Mercier, on the 19th April, 1909, at 4 p.m., at 11, Chandos Street, Cavendish Square, W.

Present: Drs. E. H. Beresford, C. H. Bond, D. Bower, J. Chambers, S. C. Elgee, J. Glendinning, T. D. Greenlees, D. Hunter, H. A. Kidd, C. J. Morrison, C. Mercier, J. Merson, J. Middlemass, E. S. Pasmore, L. W. Rolleston, G. E. Shuttleworth, R. Percy Smith, R. H. Steen, and others.

A considerable number of members sent expression of regret at inability to attend.

The PRESIDENT explained the reasons that had decided him to somewhat hastily summon the meeting.

In default of any motion to the contrary it was agreed that the Association approves the principles of the Bill, namely assured pensions on two scales and contributions by the staff according to a fixed scale.

The clauses of the Bill were taken *seriatim*, and the Secretary communicated several letters he had received containing expressions of opinion upon the various clauses from members unable to attend.

In respect of those clauses concerning which the Parliamentary Committee had previously passed resolutions, such resolutions were put for approval or otherwise.

The Parliamentary Committee's recommendations in respect to the funds from which pensions should be paid, following some remarks from Dr. Shuttleworth as to the original views of the framers of the Bill, was withdrawn.

CLAUSES 1, 3, 5, 6, 7, 8, 9 and 10 of the Bill were passed without amendment.

CLAUSE 4.—The full consideration of Clause 4 was not taken, and was adjourned to a future meeting of the Association.

CLAUSE 2.—With a view to making more secure the position of those asylum officers and servants who have signed an undertaking whereby they agree to waive all claims to a pension, it was resolved to recommend that, in each of the subsections, after the word "employment" and before the words "to receive," the words "notwithstanding any contract made or implied before the commencement of this Act," should be inserted.

It was agreed that if the sense of this suggestion were adopted, the proviso might perhaps be better incorporated in Clause 14.

CLAUSE 4.—It was agreed that it might be necessary to insert some words to make it clear that time already spent in the service of one or more of the Metropolitan Imbecile Asylums under the Poor Law should be reckoned in aggregating service when computing a pension. And that similarly there were probably asylums in Scotland and Ireland (as, for instance, "Parochial" asylums in Scotland) which might require to be covered by special words.

CLAUSE 11.—It was agreed that, as the scheme of the Bill was a contributory one, it would be more just, and would very properly render a committee's action more free, if the words "at an age at which he would otherwise have been entitled to a superannuation" in Clause 11 be omitted.

CLAUSE 12.—It was resolved that the introduction of a right of appeal in the case of dismissal of any officer or a servant, beyond the Asylum Managers or Authority, was to be deprecated, and it was agreed that such right of appeal be limited to the assessment of the pension or other benefit under the Act. It was resolved to recommend that Clause 12 be amended to read:

"In case of any dispute between the managers or authorities of any asylum and an officer or servant in regard to the granting or computation of superannuation allowances or other benefit under this Act, there shall be a right of appeal to the Commissioners in Lunacy, whose decision shall be final."

CLAUSE 13.—It was agreed that the definition of "officer or servant," as worded

in this clause, did not sufficiently ensure the inclusion of certain staff attached to Asylum Committees, but not necessarily attached to the asylum itself. It was resolved therefore to suggest that the word "Asylum," at present at the end of the clause, should read "Asylum Authority."

It was further agreed that in Clause 13 it would be probably necessary to include a definition of "Managers or Authorities of any Asylum" and "Asylum Managers or Authority," in order to cover the different terminology in the three Lunacy Acts for the three divisions of the United Kingdom.

CLAUSE 14.—Dr. Shuttleworth read a new clause which the promoters of the Bill were suggesting should take the place of the present one. It was agreed that the new clause, and which ran as follows:

"The enactments specified in the schedule to this Act are hereby repealed, subject to this qualification, that this repeal shall not affect the payment of any superannuation allowance granted before the commencement of this Act, provided always that the requirements and provisions of this Act shall not apply to those cases where the Asylum Authorities have agreed, or by resolution have arranged, prior to the commencement of this Act, or may agree or resolve at or within three months after the commencement of this Act to deal with all or any of the persons then in their employ in a more generous manner than is provided by Clause 2 of this Act, and in those cases such agreement or resolution shall thereafter be considered binding on the part of such Asylum Authorities, so far as such existing employes are concerned,"

was more exact, and therefore preferable to the present clause. It was further resolved to recommend the following sub-section to Clause 14, thus amended:

"Provided also that it shall be competent for any officer or servant, who has served for not less than fifteen years under one asylum authority previous to the commencement of this Act, by giving notice within three months thereof to the managing authority, to be excluded from the requirements and provisions of this Act as regards superannuation allowance, but not to forfeit the benefit of the arrangements in that respect existing under Sections 280—282 of the Lunacy Act, 1890."

COMMITTEE TO ACT.—The following members were appointed as a Committee (a) to draw up a Statement of Evidence founded on the resolution passed at this Special Meeting, to be forwarded to the Select Committee of the House at present considering the Bill, and (b) as far as required, to wait on such Select Committee.

Drs. Charles Mercier, H. Hayes Newington, David Bower, Edwin H. Beresford, and C. Hubert Bond.

The meeting had the advantage during part of its sitting of the presence of Sir William Collins, M.P., who was good enough to give some valuable information upon several points in the Bill. A hearty vote of thanks was passed to him for his attendance.

SOUTH-EASTERN DIVISION.

The SPRING MEETING of the South-Eastern Division was held by the courtesy of Dr. Pasmore at the Croydon Mental Hospital, Upper Warlingham, Surrey, on Tuesday, April 27th, 1909.

Among those present were Drs. R. R. Alexander, Josephine Brown, P. E. Campbell, R. H. Cole, J. F. Dixon, A. C. Dove, F. H. Edwards, F. C. Gayton, F. W. Edridge-Green, H. E. Haynes, J. W. Higginson, G. H. Keene, P. G. Kennedy, H. Kerr, H. A. Kidd, R. Langdon-Down, Mary E. Martin, J. M. Moody, F. J. Moore, A. Newington, E. S. Pasmore, David Rice, T. Clay Shaw, J. G. Smith, F. R. P. Taylor, D. G. Thomson, F. Watson, and R. H. Steen (Hon. Sec. of the Division).

The visitors included Alderman F. W. M. King, J.P., Chairman of the Visiting Committee; G. F. Carter, Esq., M.I.C.E., Borough Engineer; Fleet-Surgeon Corrie; and Drs. Pollock, Etches, Cohen, Berncastle, Furber, Macan, and Clarkson.

Apologies were received from Sir William Collins, Drs. Savage, Robert Jones, Outterson Wood, Bower, and Hollander.

The members visited the wards and other parts of the Institution, and plans of the buildings in course of construction were exhibited by the Borough Engineer.

At 1.30 p.m. luncheon took place, and at the termination of this Dr. T. Claye Shaw proposed a vote of thanks to Dr. Pasmore for so hospitably entertaining the Division.

The meeting of the Divisional Committee was held at 2.15 p.m.

The General Meeting was held at 2.45 p.m., Dr. Pasmore in the chair.

The minutes of the last meeting having appeared in the JOURNAL were taken as read and confirmed.

The following members were elected by voting papers to take office for 1909-10:

Hon. Secretary of the Division.—Dr. R. H. Steen.

Representative Members of the Division on the Council.—Drs. Boycott, Fennell, Wolseley-Lewis, and Mott.

The following gentlemen were elected as ordinary members of the Association:

Dr. Hubert James Norman, Assistant Medical Officer, Camberwell House Asylum; and Dr. William Brooks Keith, Assistant Medical Officer, Kent County Asylum, Maidstone.

Drs. Pasmore, Greenlees and Peachell were elected as members of the South-Eastern Divisional Committee of Management, which now consists of the following:

Retire in 1910.

Dr. Taylor.

Dr. R. Langdon-Down.

Dr. Dixon.

Retire in 1911.

Dr. Seward.

Dr. R. H. Cole.

Dr. J. G. Smith.

Retire in 1912.

Dr. Pasmore.

Dr. Greenlees.

Dr. Peachell.

The invitation of Drs. Adams and Johnston to hold the autumn meeting at Brook House, Upper Clapton, N.E., was unanimously accepted with much pleasure. The date was fixed for October 6th, 1909.

Dr. T. CLAYE SHAW read a paper entitled, "The Clinical Value of Consciousness in Disease" (see page 401).

In the discussion which followed, Dr. F. W. EDRIDGE-GREEN said that the point which had been raised by Dr. Claye Shaw might be explained when we took into account the fact that the basal ganglia had a separate blood-supply to the cerebral hemispheres. If the blood-supply of the centres for memory were below the normal, impressions received at that time would be indifferently recorded, as would be the case if any toxin interfered with their action. A lesion of the perceptive centre would effectually prevent the revival of impressions, for instance, he had only yesterday examined a case of total colour blindness after tetanus occurring in a signalman who had several times passed tests for colour-blindness. It was obvious that he could no longer deal with impressions of colour.

Drs. PASMORE and STEEN also spoke, and Dr. CLAYE SHAW replied.

After the meeting Mrs. Pasmore kindly entertained the members to tea in the Medical Superintendent's house.

SOUTH-WESTERN DIVISION.

The SPRING MEETING of this Division was held, by kind invitation of Dr. Nelis, at the Newport Borough Asylum, Caerleon, on Friday, April 30th, 1909.

The following members were present:—Drs. Bazalgette, Blachford, Richard Eager, Glendinning, Goodall, MacBryan, McGregor, Martin, Morrison, Nelis, Shera, Soutar, Thomas, and the Hon. Div. Secretary. There were also five visitors.

Dr. Glendinning having been voted to the chair, the minutes of the Autumn Meeting were read and signed.

Letters of regret for non-attendance were read from the President, Dr. P. W. Macdonald, and others.

The following candidates were elected ordinary members of the Association:

Harold West Hodgson, M.R.C.S., L.R.C.P., Assistant Medical Officer, Barnsley Hall Asylum, Bromsgrove. Proposed by Drs. Hughes, Maule Smith, and Aveline.
John Frederick Wolseley Leech, M.D. Dublin University, Assistant Medical Officer, Wilts County Asylum, Devizes. Proposed by Drs. Ireland Bowes, Cole, and Aveline.

Scott Potter, L.R.C.S., L.R.C.P.Ireland., Senior Assistant Medical Officer, Fisherton House, Salisbury. Proposed by Drs. Baskin, Aveline, and J. W. Rutherford.

Sidney John Steward, M.B., B.C.Cambridge, M.R.C.S., L.R.C.P., Second Assistant Medical Officer, Devon County Asylum, Exminster. Proposed by Drs. Davis, Richard Eager, and Aveline.

Dr. Aveline was appointed Hon. Divisional Secretary, and Drs. Bullen and P. W. Macdonald elected Representative Members on the Council.

Drs. Macdonald and Pope were elected to fill vacancies on the Committee of Management.

The Autumn Meeting was fixed to be held, by kind invitation of Dr. Blachford, at the Fishponds Asylum, Bristol, on October 22nd, 1909; and the date of the Spring Meeting was fixed for April 29th, 1910.

Dr. NELIS read a short paper on "The Testamentary Capacity of Insane Persons," which was discussed by Drs. Soutar, Morrison, Glendinning, and one of the visitors.

Dr. BASKIN exhibited by means of the cinematograph the "Insane Movements" in the case described by him in a paper at a previous meeting (see page 500).

Subsequently, the HON. SECRETARY exhibited on the cinematograph a series of films, showing the movements characteristic of various diseases of the nervous system.

On account of the lateness of the hour, the discussion of the Report of the Royal Commission on the Care of the Feeble-minded was postponed to the next meeting, and the proceedings closed with a vote of thanks to Dr. Nelis for his hospitality.

A number of the members and visitors dined together in the evening at the King's Head Hotel, Newport.

NORTHERN AND MIDLAND DIVISION.

THE SPRING MEETING of the Northern and Midland Division was held, by the kind invitation of Dr. Clapham and Dr. Mould, at the Grange, near Rotherham, on Tuesday, April 20th, 1909.

Dr. G. E. Mould presided.

The following nine members were present: Drs. A. Ewan, J. W. Geddes, E. G. Grove, W. S. Kay, R. Kelly, T. W. McDowall, G. E. Mould, W. J. Vincent, and T. S. Adair.

The minutes of the last meeting were read and confirmed.

Dr. T. S. Adair was re-elected Secretary to the Division for the ensuing twelve months.

A suitable vote of thanks having been passed to the two retiring representative members of Council, Dr. T. W. McDowall and Dr. Ewan, for their services during the past three years, Dr. David Orr was re-elected, and Dr. Gilbert E. Mould was unanimously elected to fill the other vacancy. The number of members of the Division having fallen below 150, only two representatives can be appointed this year. Dr. Grove and Dr. Vincent acted as scrutineers.

A letter was read from Dr. Douglas kindly inviting the members to hold the autumn meeting at the Royal Albert Asylum, Lancaster. On the proposal of Dr. Ewan, seconded by Dr. McDowall, this was accepted. The fixing of the date was left open.

Haydock Lodge was mentioned as a place for the next Spring Meeting, and it was suggested that the Secretary should write to Dr. Street.

Dr. Mould read his paper, entitled "The Private Asylum." After apologising for his temerity in asking the members to meet at a proprietary asylum, he gave an interesting sketch of the regulations affecting such an institution, how the licence had to be renewed each year like some other forms of licence, and the hardships under which private asylums were placed as the law at present stands. Though at one time they bore a bad name, yet many good names have been associated with their foundation, such as those of Tuke, Newington, and Hill, and it is impossible to believe anything but good of such men. He pointed out that the reputation and prosperity of a private asylum depended on two things only—

"its ability to cure the curable and to treat with kindness the incurable"—and he indicated how the life approximated more closely to home life and the advantages to be derived from living in an old country house with historic associations.

Dr. McDOWALL thanked Dr. Mould for his very interesting paper, and a conversational discussion followed.

Dr. W. J. VINCENT read a report on a case of "Conjugal General Paralysis," and showed photographs of the man and his wife. He pointed out that, though cases had probably been frequently met with, the number recorded is comparatively few apparently. The cases are instructive in the fact that there was a history of syphilis in the husband which had been acquired after marriage; that he was the first to be affected mentally; that his disease took the "expansive" form, grandiose delusions, etc.; whilst his wife suffered from the "stuporose" form, depression gradually merging into dementia. The husband had no congestive attacks, while the wife had, but in both the concomitant physical signs were well marked. The husband was a commercial traveller, *æt.* 50, under-sized and somewhat ill-developed. He was happy, contented, and self-satisfied, and showed the usual characteristics of general paralysis. He gradually became demented, and died about two years after admission.

The wife was *æt.* 50, and was admitted three years after the husband. She was depressed and apathetic, and became steadily demented. She had several epileptoid seizures, and died about one and a half years after admission.

In both cases the post-mortem examination showed the characteristic changes.

A discussion followed in which Dr. Mould, Dr. Ewan, and others took part.

Dr. KELLY read Dr. French's paper "The Vagrant or Can't Work," which had been postponed from the last meeting. He pointed out how in his prison experience he had come in contact with this class. The general crimes committed by them were: "sleeping out," "wandering abroad," "begging alms," but never any great criminal offence needing much brain work.

The following was the table usually used for classification: (1) (a) Congenital deficiency with epilepsy; (b) congenital deficiency without epilepsy; (2) imperfectly developed stages of insanity; (3) mental debility after attack of insanity; (4) senility; (5) alcoholic; (6) undefined. But for purposes of generalisation these six categories resolve themselves into two classes: (1) Those who are congenitally feeble-minded; (2) those who are not. He further divided them into true and quasi-vagrant; the former are almost always congenitally defective, the latter have become vagrants from stress of external circumstances, and are much more frequently charged with really criminal offences. He stated that out of 194 cases under his observation, 122, or 63 *per cent.*, were found congenitally defective. He then briefly sketched the history of a typical case of the class referred to, and drew the following conclusions from his experiences:

- (1) Three in every four beggars and vagrants are really feeble-minded.
- (2) Two out of every three, or 65 *per cent.*, of those found defective could be shown to be congenitally feeble-minded.
- (3) The chief causal factor in the condition of this latter class is parental alcoholism.
- (4) That this particular class is not as a class criminal.
- (5) That all vagrants and masterless men found to be defective should be recognised as demented, segregated at special work, farm colony labour for preference, and thus made to defray to the State the cost of their maintenance.

Comments on the paper were made by Dr. Mould and Dr. Vincent, and regrets were expressed that Dr. French was unable to be present.

A hearty vote of thanks to Dr. Mould for his hospitality brought the meeting to a close.

SCOTTISH DIVISION.

A MEETING of the Scottish Division of the Medico-Psychological Association of Great Britain and Ireland was held, by the courtesy of Professor D. Noel Paton, in the Physiological Laboratory of the University of Glasgow, on Friday, 19th March, 1909.

The following members were present:—Drs. Oswald, Baugh, Bruce, R. B.

Campbell, Carre, Clouston, Donald, Easterbrook, Graham, Gostwyck, Hotchkis, Ireland, Carlyle Johnstone, Yellowlees, Keay, Kerr, J. H. Macdonald, G. D. Macrae, Maclachlan, Marshall, Parker, Richard, Robertson, Rorie, Shaw, Skeen, Turnbull, and Marr (Divisional Secretary).

There were also present as guests Drs. Henry J. Watt, Ivy McKenzie, and Carl Browning.

Dr. Oswald was called to the chair.

Letters of apology were submitted from Principal Sir Donald MacAlister, K.C.B., Drs. Mercier, Watson, Urquhart, and Tuach Mackenzie.

Professor D. Noel Paton said he had been asked by Principal MacAlister to express his regret at not being able to be present at the Meeting, and to extend to the Members of the Division a hearty welcome to the University of Glasgow. Professor D. Noel Paton said he had the greatest pleasure in welcoming them to the Physiological Laboratory.

The minutes of the last Meeting were read and approved, and the Chairman was authorised to sign them.

The Chairman, after making suitable reference to the death, since last meeting, of Drs. Alexander Robertson and David Brodie, two members of the Association, suggested that Dr. Ireland, who was perhaps more intimately acquainted with both than any other one present, might say a few words. Dr. Ireland made sympathetic reference to the death of the two members, and paid a high tribute to the manner in which they had distinguished themselves during their medical career. It was unanimously resolved, on the motion of the Chairman, "That it be recorded in the minutes that the Members of the Scottish Division of the Medico-Psychological Association of Great Britain and Ireland desire to express their deep regret at the loss of Dr. Robertson and Dr. Brodie; their appreciation of the esteem in which they were held by the medical profession in Great Britain, especially in Scotland; and their sympathy with the two families in their bereavement, and that the Secretary be instructed to transmit an excerpt of the minutes to the relatives of Dr. Robertson and Dr. Brodie."

Drs. R. D. Hotchkis and R. B. Campbell were unanimously elected Representative Members of Council, and Dr. H. C. Marr Divisional Secretary.

Drs. W. D. Campbell, James Laurie, J. D. Maclachlan, Arthur Kellas, A. G. McIntyre, and D. G. Campbell were, after ballot, duly elected members of the Association.

Dr. Ivy McKenzie, M.A., B.Sc., of the Pathological Department of the Glasgow University, read a paper on "The Wassermann Reaction, and especially its Significance in Relation to General Paralysis." This paper is published in the current number of the *Journal of Mental Science* (see page 437). Unfortunately time did not allow a long discussion of the paper. After some remarks by Drs. Lewis Bruce, Marr, and the Chairman, the next business of the Meeting was proceeded with, viz. "A Short Account of recent Progress in the Analysis of Reactions," by Henry J. Watt, M.A., Ph.D., Lecturer on Psychology in the University of Glasgow. After the paper had been read Dr. Watt gave a very interesting demonstration of Reaction Time Apparatus.

Drs. McKenzie and Watt received the warm thanks of the Division for the great trouble they had taken in preparing the papers and giving the demonstrations.

The members afterwards dined together in the North British Station Hotel.

IRISH DIVISION.

THE SPRING MEETING of the Division was held at Farnham House, Finglas, Dublin, on Thursday, April 29th, 1909, by invitation of Dr. Dawson, who showed the members over the institution and afterwards entertained them at luncheon.

At the subsequent meeting the chair was occupied by Dr. T. Drapes, and there were also present Drs. R. R. Leeper, A. D. O'C. Finegan, W. Graham, J. O'C. Donelan, J. A. Oakshott, James J. Fitzgerald, O. F. McCarthy, J. Mills, F. E. Rainsford, M. J. Nolan, and W. R. Dawson (Hon. Sec.). Dr. G. F. Shepherd also took part in the proceedings after his election. Apologies were received from

Drs. G. R. Lawless, H. R. C. Rutherford, E. Fleury, R. L. Donaldson, A. A. Burrell, A. Fitzgerald, P. O'Doherty, F. O'Mara, D. E. Allman, T. S. Adair, J. C. Martin, C. E. Hetherington, H. Cullinan, G. F. Revington, B. C. Harvey, and H. M. Eustace.

The minutes of the previous meeting were read, confirmed and signed, and the Hon. Secretary reported on a matter arising out of them.

The Hon. Secretary also reported a letter from Dr. Finegan acknowledging the resolution passed at last meeting of the Division, and one conveying the President's sanction to the change of date of the meeting from April 22nd to April 29th.

The following were balloted for and declared unanimously elected ordinary members of the Association, *vis.*, Dr. Thomas Adrian Greene, Resident Medical Superintendent, District Asylum, Carlow (proposed by Drs. M. J. Nolan, J. Cotter, and W. R. Dawson); Dr. George Ferguson Shepherd, Assistant Medical Officer, St. Edmundsbury, Lucan (proposed by Drs. R. R. Leeper, H. R. C. Rutherford, and W. R. Dawson); and Dr. William Neilson Eustace (proposed by Drs. W. R. Dawson, J. O'C. Donelan, and P. J. Dwyer).

Dr. W. R. Dawson was elected Divisional Secretary, and Drs. W. Graham and James J. Fitzgerald Representative Members of Council for the ensuing year. Dr. M. J. Nolan was nominated as Examiner.

The following dates for the meetings of the Irish Division during the ensuing session were agreed on, *vis.*, Saturday, November 6th, 1909; Thursday, April 21st, 1910, and Thursday, July 7th, 1910.

It was decided that Dr. Harvey be asked to allow the Summer Meeting of the Division to take place at the District Asylum, Clonmel.

A discussion of the Asylums Officers' Superannuation Bill, presented by Sir W. Collins, M.P., was introduced by Dr. Nolan, who said that the Irish Lunatic Asylums Superannuation Sub-Committee had declared in favour of the Bill, which had been shown as the result of a circular inquiry to command the support of about 70 *per cent.* of the Irish asylum officials. The Bill was desirable as tending to generalise the asylum service, as well as giving the officials a feeling of security. Where existing terms were better than those offered by the Bill they could be retained.

Dr. DONELAN objected to the Bill on the grounds that no actual grievances had arisen under the old system, whereas there had been cases of generosity on the part of Committees, who would only be taught to be penurious.

Dr. NOLAN, however, quoted the instance of a Committee which now exacted from their attendants a promise not to claim pension.

The CHAIRMAN, as well Drs. FINEGAN, GRAHAM, OAKSHOTT and FITZGERALD having all spoken in favour of the Bill, the following resolution was proposed by Dr. Fitzgerald, seconded by Dr. Graham, and carried with one dissentient:

"That this, the Irish Division of the Medico-Psychological Association, approve of the Asylums Superannuation Bill, at present before Parliament, and nominate Drs. O'Neill and Nolan to represent them before the Select Committee now considering same."

The Irish recommendations of the Royal Commission on the Care and Control of the Feeble-Minded were then considered. The HON. SECRETARY pointed out that these recommendations coincided in several particulars with those of a Memorandum drawn up by the Division a short time ago, though not with the suggestion that the asylum service might be made national. He took exception, however, to several of the provisions, notably the number of classes into which the defective are divided, some of which he thought unnecessary, and also the requirement of the signature of a judicial authority for the admission of paying patients, which he regarded as a relic of barbarism. He thought the value of mere registration and certification doubtful.

Dr. RAINSFORD expressed himself as disappointed with the Recommendations, but approved of that dealing with the question of settlement. He favoured a simple form for the certification of imbeciles. He thought Recommendations XLIV and XLVII presented practical difficulties; but in any case it would be difficult to support the proposals until it was known how far the Imperial Exchequer would uphold them.

Dr. LEEPER also expressed general disapproval.

Dr. NOLAN alluded to the work of the Irish medical investigators in appreciative

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terms, and proposed the addition of Dr. Mills' name to the Committee of the Division formed to watch legislation in the interests of the insane. This was seconded by Dr. DONELAN, and carried unanimously.

Dr. GRAHAM expressed the view that the judicial authority was unnecessary in view of the constitution of a strong central authority. The debate was adjourned.

It was proposed by Dr. RAINSFORD, seconded by Dr. OAKSHOTT, and carried unanimously :

"That the Irish Division of the Medico-Psychological Association is of opinion that in the appointment of examiners for the Nursing Certificate of the Association, the claims of Ireland to have a representative should be favourably considered."

The report of the Committee of the Division appointed to consider the best method of increasing interest in the Association amongst Irish assistant medical officers was presented. It was recommended that collective reports should again be asked for, to be presented at the Autumn Meeting of the Division, and that the subjects for the present year be (1) "The Relations between Alcoholism and Insanity," and (2) "The Bacteriology of Acute Insanity." The report was adopted unanimously, and the name of Dr. W. Graham was added to the Committee.

Dr. M. J. NOLAN made a communication, entitled "Clinical and Pathological Notes, III," which was discussed by the Chairman and Dr. Leeper, and Dr. Nolan replied.

Dr. R. R. LEEPER read a paper "On Some Cases of Mania apparently due to Bacterial Infection." The Hon. Secretary, the Chairman, and Dr. Rainsford spoke, and Dr. Leeper replied.

Dr. W. R. DAWSON read the following :

HISTORICAL NOTE ON FARNHAM HOUSE.

(Revised.)

Farnham House is the oldest institution of its class in Ireland, being now in the ninety-fifth year of its existence as a mental hospital. It may therefore be of some interest to sketch briefly its history.

Farnham House was opened as an asylum in the year 1814. The village of Finglas, where the institution is situated, is a place of some historic note. It is on record that St. Canice presided as first Bishop and Abbot of Finglas over a monastery said to have been founded by St. Patrick (but more probably by himself), the last remains of which are to be found in the ruins of the old parish church. It is affirmed that St. Patrick preached here, and on one occasion gave utterance to the prophecy that Dublin would some day become a greater city than Finglas, a prophecy which, needless to say, has been duly fulfilled. Coming down to more recent times a curious sidelight is thrown on the methods of the Cromwellian troops by the fact that, when they were on the point of marching through to the tragedy of Drogheda, the village cross (the ancient cross of Nethercross) was buried to save it from being broken by them. The tradition of its place of burial survived, and after nearly two hundred years it was sought for, found, and re-erected by the vicar of the parish, not on the original site, which was perhaps the village green, but in the graveyard of the old church, where it now stands—a circumstance which proves the occasional accuracy of local tradition. A somewhat improbable story relates that James II slept on the night after the Battle of the Boyne at an ancient house named Finglas Wood, the walls of which still stand about half a mile away; and it is certain that a camp was formed here by the victorious army of William III a few days later, inasmuch as considerable remains of the defences exist. These consist of a small earthwork in the grounds of Fortwilliam, a neighbouring residence, this having been thrown up to command the Dublin road; and a much stronger rampart faced with stone, and containing a vaulted chamber in its interior, which now forms one wall of the Vicarage garden and yard. It is a curious commentary on the small amount of local importance which may attach to what are usually considered great events, that amid all this coming and going of kings and captains the records show that the meetings of the parish vestry were quietly held, and contain no suggestion that anything out of the common was taking place. Some years later the vicarage of the parish was held by Archdeacon Thomas Parnell, poet, and friend of Swift, an ancestor of Charles Stewart Parnell; and a relic of him still exists in the village school, in the form of

an oak table which he had made. The subsequent history of the village has been uneventful, and the only circumstances for which it acquired any note in more recent times were certain annual May-day festivities, which seem to have been celebrated on the village green during the first half of the nineteenth century.

Finglas and the district round, however, were somewhat sought after as places of residence by fashionable folk in the eighteenth century. Even earlier than this a certain Judge Cardiff had a castle here, which has completely disappeared, though remains exist of at least one other mansion of even greater age. Its eighteenth century vogue, however, is proved by the number of Georgian houses which remain, though some of them in a ruinous state. Amongst others the Marquis of Drogheda had a suburban residence, still known as Drogheda Lodge; and Farnham House was the property of the Farnham family, who also owned as a dower house the neighbouring mansion of St. Helena.⁽¹⁾ The wainscotted walls and the general design of that portion of the buildings forming the original Farnham House would seem to suggest that it must be about two hundred years old; and it is said to have counted amongst the guests entertained within its doors such celebrities as Addison, Swift, and the Delaneys. Its selection for the purpose of an institution was doubtless in part due to the immediate proximity of another mansion, Maryville, with which it is now structurally connected. This house is said to have been erected for the Head Cook to the last Irish House of Commons, who must, if so, have been a person of means and importance; but however this may be, the graceful Adam ceilings and other decorations, and the general style of the building, seem to point to the end of the eighteenth century as the probable date of its foundation. About this time the tide of fashion must have begun to set towards the south side of the city; and it is evident that the number of large houses left derelict from that cause furnishes the reason for the establishment of so many private asylums as at one time existed in the neighbourhood.

The two mansions, however, form merely the nucleus of the present institution, having been connected up, added to, and altered from time to time, while separate buildings were erected, and many changes made in the grounds. Thus the Superintendent's private house dates from about seventy years ago, and the chapel, most of the north wing of Farnham House, and the older part of the ladies' detached bungalow were erected in the later sixties, to which period also belong the present main avenue and entrance lodge. The farm-steward's house, the back-lodge, and various other out-offices are more recent; and the last additions are the bedroom wing, with hall and open-air loggia, added to the bungalow only last year.

The founders of Farnham House as an institution were Dr. Alexander Jackson, State Physician, and Rev. James Horner, a Presbyterian clergyman, and one of the Governors of the House of Industry, who was "to superintend the fiscal arrangements and undertake the general management of the concern." It is thought that Mr. Hunt, the State Apothecary, was also a partner, but this is uncertain. If so, his connection with the institution was short, and he was replaced in the following year by a young Scottish physician, Dr. James Duncan, who was the real founder of the institution, which became his sole property about nine years later, and remained in his possession until his death in 1868.

Dr. Duncan was born in Edinburgh in 1786, and when still very young was apprenticed to a surgeon in that city, at the same time attending lectures, so that he obtained the diploma of the Edinburgh College of Surgeons in 1805. In that year he came over on a visit to his friend Sir James Foulis, who then resided in County Meath. This gentleman, who had a great belief in the curative efficacy of electricity and galvanism, then recently discovered, induced Dr. Duncan to start in Dublin as a practitioner in this line, and, indeed, provided him with whatever apparatus was at that time considered necessary. Dr. Duncan seems to have been speedily successful in acquiring an independent position, and in the intervals of practice found time to attend lectures in the University Medical School, where he took the diploma in medicine, though, not being a graduate in arts, he was unable to proceed to the doctorate. He married a Miss Booker in 1810, and his two sons, James Foulis and Nugent, both of whom adopted the profession of medicine, subsequently became connected with Farnham House. His wife died in 1815, and it

(¹) The signatures of the Marquis of Drogheda and Lord Farnham appear in the minutes of a meeting of the Vestry in 1757.

appears to have been after this that he decided to become a partner in this institution, though not at first with the intention of residing here. However, it was soon found necessary that some responsible person should live in the establishment, and Dr. Duncan decided to relinquish his practice and to become resident superintendent, which he did in 1816. He appears to have been a capable administrator and well suited in many respects for such a post, and under his direction the institution prospered and acquired a reputation, while he himself amassed a considerable fortune.

There is no record as to the number of patients who could be accommodated in the asylum at the start, but the register shows eighty-eight admissions in the first ten years of its existence, *i.e.*, to the end of 1823, so that it must have been of fair size. In 1842, when the Lunacy Act came into operation, it was licensed for thirty-six gentlemen and fourteen ladies, and was much the largest of the seven private asylums licensed in that year. (At the end of 1843 there were forty-one actually resident.) It is interesting to note that of these seven asylums only three now survive, and that no less than four were in the immediate neighbourhood of Finglas, *viz.*, besides Farnham House, Finglas House, the property of Dr. Harty, closed in 1851; Eagle Lodge, the property of Dr. J. T. Daffy, closed in 1862; and Bellevue (or Bellevue), the property of Dr. W. Gregory, closed in 1875. A small asylum was also started at Jamestown House, Finglas, in 1855, but this was transferred to Rathfarnham two years later. Of the buildings occupied by these institutions Finglas House is now a convent, Bellevue is still derelict, and Eagle Lodge exists as a residence under a different name. It may be added that this institution was carried on under a single license up to 1849, in which year Maryville, the ladies' department, appears separately. The relative numbers for which the two institutions were licensed varied from time to time, and even the total seems to have been altered from year to year at one period. In the earlier years, however, the total licensed number was usually fifty, but has been as low as forty-four; while, on the other hand, about thirty years ago it mounted for several years to sixty-six. Since 1888 the combined institutions have been licensed for fifty-six patients.

About the year 1840 Dr. Duncan, while continuing to reside, when not away travelling, delegated the formal duties of resident medical superintendent to his son, Dr. Nugent Duncan, who held that office up to the year 1868, when ill-health obliged him to resign. The other son, Dr. James Foulis Duncan, successfully engaged in practice in Dublin, where he became Physician to the Adelaide Hospital and was President of the College of Physicians in 1873-4-5. He, however, also acquired a connection with Farnham House, first as visiting physician in 1861, then as co-licensee with his brother in 1864, and ultimately as proprietor in 1868, though he never regularly resided.

It was during Dr. Nugent Duncan's period of office, in the year 1843, that a well-known incident occurred of which O'Connell made some political capital, and which, indeed, is believed by some to have been a sort of practical joke arranged by him with the attendants. This is possible, as his lieutenant, Tom Steele, was for a short time a patient here in his younger days, and always retained a great friendship for Dr. Duncan. Speaking in May, 1843, O'Connell described the occurrence thus:—"The present Lord Chancellor,⁽¹⁾ in the interim of making out the Writs of Supersedeas for the repeal magistrates, is very fond of investigating into the management of lunatic asylums. He made an agreement to visit, without any previous intimation, a lunatic asylum kept by Dr. Duncan in this city. Some person sent word to the asylum that a patient was to be sent there in a carriage that day, who was a smart little man that thought himself one of the judges or some great person of that sort, and who was to be detained by them. Dr. Duncan was out when Sir Edward Sugden came in there in half an hour afterwards. On knocking at the door Sir Edward was admitted and received by the keeper. He appeared to be very talkative, but the attendants humoured him and answered all his questions. He asked if the Surgeon-General had arrived, and the keeper assured him that he was not yet come, but that he would be there immediately. "Well," said he, "I will inspect some of the rooms until he arrives." "Oh, no, sir," said the keeper, "we could not permit that at all." "Then I will walk for a

(1) Sir Edward Sugden.

while in the garden," said his lordship. "We cannot let you go there either, sir," said the keeper. "What!" said he, "don't you know that I am the Lord Chancellor?" "Sir," said the keeper, "we have four more Lord Chancellors here already." He got into a great fury, and they were beginning to think of the strait-waistcoat for him when fortunately the Surgeon-General arrived. "Has the Lord Chancellor arrived yet?" said he. The man burst out laughing at him, and said, "Yes, sir, we have him safe, but he is by far the most outrageous patient we have."

In 1857 Dr. Duncan gave evidence before the Commission of Inquiry into Irish Lunatic Asylums as to the condition of the institution, and his statements, while revealing a somewhat unsatisfactory state of affairs, certainly indicate a considerable grasp of modern ideas as regards restraint, and also the provision of amusements. With reference to the former, Dr. Duncan stated that the padded room was never used for purposes of restraint, and that in general he was for non-mechanical restraint, but he admitted that he used it in the form of the muff or strait-jacket to prevent the patients from tearing their clothes! The amusements, in addition to billiards and other indoor games, were said to include gardening, and also, strange to say, bird-catching, while allusion is made to spring-boards, which I presume were supposed to be a substitute for horse-exercise. As you may perhaps be aware, the findings of this Commission gave no very favourable account of the Irish asylums of the day, either public or private.

On becoming proprietor in 1868, Dr. James Foulis Duncan, not being able to reside in the institution, appointed as resident medical superintendent Dr. John Grant Wilson, who had been assistant to Skae at Morningside, and subsequently resident superintendent of Hoxton House, and of "Dr. Wood's private asylum at Kensington." Dr. Wilson's connection with the institution, however, was only a short one, as Dr. Duncan arranged to take into partnership Dr. Alexander Patton, of Tanderagee, who accordingly took up his residence here in 1872. It may be noted that about the beginning of the sixties Dr. J. F. Duncan, who wielded the pen of a ready writer, began issuing short annual reports, a practice which he kept up for ten years, and which has been recently revived. To some of these reports I am indebted for many of the foregoing facts.

Dr. Duncan retained the position of visiting physician up to the beginning of 1875, in which year he was elected President of the Medico-Psychological Association. In his excellent (if a trifle pedantic) opening address, delivered at the College of Physicians, Dublin, on August 11th, he gave a sort of general sketch of insanity in Ireland, and it is interesting to notice how many of the points on which he touched still demand attention (though not always so acutely, or in the same form), and how strongly he urges the importance of the medical aspect of the treatment of the insane, based on the view that insanity is a disease "to be viewed in the same light and treated on the same principles as those which regulate medical practice in other branches." The under-manning of the Irish asylums is alluded to; the defective protection afforded to the medical officers in the discharge of their duties; a point regarding their superannuation; the question as to whether insanity is on the increase or not (which he was inclined to decide in the affirmative), and, if so, as to the causes of such increase, which he believed to be much the same over thirty years ago as are commonly assigned to-day—*vis.*, the artificial conditions and high pressure of modern life, the employment and close association of the young of both sexes in factories, and the consequent "loosening of the family bond," extravagance in all classes, the spirit of speculation, and, above all, intemperance. It is curious to notice that though nearly all these influences have become far more accentuated than they were in 1875, the question of the increase of insanity is still under discussion.

Dr. Duncan's connection with Farnham House ceased on January 1st, 1875, when Dr. Patton became proprietor of the institution, which he retained for over twenty-five years. In his first year it received a considerable accession of numbers owing to the closure of the neighbouring establishment, Belleview, a number of the patients from which were transferred here—it may be added, in a very unsatisfactory condition. This increase in numbers, however, kept up, and in fact, during the earlier years of Dr. Patton's proprietorship, the institution reached high-water mark in this respect, being at one time, as has been seen, licensed for sixty-six patients—thirty-eight gentlemen and twenty-eight ladies. At the same

time the recovery-rate seems to have been very satisfactory. In 1893, owing to advancing years, Dr. Patton felt the need of assistance, and made proposals to the writer, then starting practice in Dublin, that he should become his assistant, with a view to succeeding him. The first part of this arrangement came into operation in the autumn of 1894, while at the beginning of April, 1899, just over ten years ago, the writer became proprietor and resident medical superintendent on the retirement of Dr. Patton.

During the past ten years the institution has been renovated, remodelled, and reorganised in every detail from end to end. To touch on only a few of the principal structural improvements, the entire drainage and sanitary system of the establishment have been relaid on modern lines, the kitchen and laundry refitted, and such changes in the internal arrangements carried out as most conduce to the comfort of the patients and to convenience in working, while additional accommodation has been provided by the new addition already referred to. Out of doors the old airing-courts at Maryville have been cleared away and the space turned into an open garden; and, what has proved, perhaps, the most useful improvement of all, a walk about three-quarters of a mile long has been constructed round the whole estate, and forms a real boon to the patients. Especial attention has been paid to the social side of the work of the institution. A dance is held weekly, except during the summer months; and in addition a larger entertainment—concert, lantern-lecture, theatricals, garden-party or such-like—is given about once a month, while all the ordinary games are provided, such as hockey and golf in winter, and croquet, tennis and badminton in the summer months. With all this, however, every effort has been made to keep the medical side of treatment the really important one, and the various methods introduced into practice from time to time have been tried in appropriate cases. Thyroid treatment has yielded good results in our hands; supra-renal treatment, which was introduced here, has been found useful in certain cases; and the atropin treatment of inebriety has proved sufficiently successful to induce us to continue its employment. Apart from drugs, rest and diet treatment and the hydropathic method of the wet-pack have all been of service; while the latest introductions, *vis.*, the open-air method, found so successful in America, and more recently in Scotland, and the administration of so-called Bulgarian milk, with a view to reducing the manufacture of toxins in the intestinal canal, are yielding encouraging results, though their introduction is too recent for positive assertions. Lastly, the staff has been increased so as to include at least two assistants (one unqualified), and an assistant matron in addition to the matron; while the nurses and attendants are carefully trained for the Nursing Diploma of the Medico-Psychological Association, which has been obtained by many of the former.

An attempt was made to ascertain the number of cases admitted to the institution since its foundation. There are over 1,200 names on the books, but as voluntary boarders were received, of whom no record was kept until comparatively recently, the number of admissions is probably considerably larger, perhaps between 1,500 and 2,000 in all.

The meeting terminated with a vote of thanks to Dr. Dawson for his hospitality.

OBITUARY.

WILLIAM WOTHERSPOON IRELAND, M.D.

Dr. Ireland, who was so welcome and so familiar a figure at the meetings and congresses of the various medical societies, and so well known through his writings, died rather suddenly at his home in Musselburgh, on the 17th May, 1900, at the age of seventy-seven. He was the son of a publisher in Edinburgh, studied in the University there and in Paris, and entered the East India Company's service as assistant surgeon with the Bengal Horse Artillery shortly before the Mutiny broke out. During the Mutiny, at the siege of Delhi, he attended the wounded Lieutenant (now Lord) Roberts. After seven months service, when doing his duty like a hero, he was shot in the head; the bullet entered and destroyed the eye and passed out behind the ear; at the same time a bullet entered his shoulder and lodged in his back, this was afterwards extracted by the surgeons.

It was a year before he could leave his bed, three years before he could undertake the voyage home, and ten years before he could enter on further professional work. During that tedious convalescence he lived in Madeira and various places on the Continent of Europe. He had many reminiscences and pleasant recollections of Savoy, and formed many lasting friendships. From the beginning Dr. Ireland showed a capacity for literature, general and professional. He wrote the *History of the Siege of Delhi* in 1861, and ever since then he had been writing or translating almost continuously. During his convalescence he wrote two books, *Studies of a Wandering Observer* and *Randolph Methy*, a tale of Indian life. Few men in our profession knew its literature so well. He turned his attention to mental disease after he was strong enough for work, and was appointed Medical Superintendent of the Larbert Institution for Imbecile Children, a post which he held for ten years, until he opened a private home for the defective at Polton, where he remained until his retirement to Musselburgh in consequence of Mrs. Ireland's death. His name is best known in connection with the two lines he especially took up. The one was idiocy and imbecility, and the other was the application of medico-psychology and studies in heredity, to the elucidation of the lives of certain men who have made a name in history, but who showed marked mental peculiarities, good and bad, and many of whom had a morbid mental inheritance. His *Idiocy and Imbecility* (1877), changed in title in its second edition to *Mental Affections of Children* (1900), has been our standard work in English on that subject since it came out. It is a book that was carefully and honestly written; it covers the whole ground he treats of, and its appreciation is shown by the fact that it has passed through two editions, the second greatly enlarged. The two books, in which his hereditary studies were applied to the problems of history, were the *Blot on the Brain* and *Through the Ivory Gate*. In those works, which are of great general interest, he treats of the Claudian-Julian family, Nero, Messalina, Caligula, and others as illustrating the effect of unchecked power on the characters of men. He also wrote an account of the Royal Family of Spain, which has great psychological and psychiatric interests. Royal families form the best field for studies in human heredity, because their members are necessarily well known. He also analysed the characters and work of Francis Xavier, Joan of Arc, Louis II of Bavaria; Guiteau, the assassin of President Garfield; Riel, the half-breed Canadian; Theodore of Abyssinia, Luther, Ivan the Terrible, Paul of Russia, and one or two Eastern Sultans. His memoir of Swedenborg is ample and appreciative. Ireland seemed to revel in the borderland between sanity and insanity, and undoubtedly stimulated inquiry into the part which heredity and brain constitution has played in history, so much neglected by historians. He also published studies of Torquato Tasso, Auguste Comte, and Friedrich Nietzsche, from the literary and psychological point of view, and wrote a biography of Sir H. Vane the younger. Showing the range of his acquirements and tastes, he wrote on the "Effects of the Resinous Vapours of the Coniferæ on the Climate of Madeira," and on the "Arithmetical Faculty in Cerebral Disease." His translations and reviews for this and other journals were very numerous, for he had practical knowledge of French, German, Italian, Spanish, Norse and Hindustani. All he wrote was interesting and instructive. He did not cultivate brilliancy of style, but rather that of a solid and clear exposition. He was elected an honorary member of medical societies in Russia and Italy.

On the occasion of the jubilee of his graduation he was made the recipient of an illuminated address and presentation by a large number of his professional brethren, with whom he was always a favourite. He had an individuality in his appearance, laugh, walk, and character. He was never carried away by new theories at once, and indeed, even as to facts that professed to be new he always took the position that they would have to be confirmed before they took their place in medical science. Showing that he could write to the point, one of his books was excluded from circulation in Russia because he had painted too true a picture of Ivan the Terrible in the *Blot on the Brain*. Many of his professional brethren, if they wanted a reference in regard to mental deficiency or mental disease, instinctively went to Ireland for it. It was said in the Address presented to him on the 4th March, 1905, the year of his jubilee as M.D. of Edinburgh, by the then President of the College of Physicians, Edinburgh,—“Above all those merits, your personal character, combining modesty and genial humour, earnestness and truthfulness, have

won our respect and affection. We desire most cordially to express to you our wishes for a long and happy life, and still further usefulness. We believe that you will always enjoy the happiness of the man who 'keeps himself simple, good, sincere, grave, unaffected, a friend of justice, considerate, and strenuous in duty.' " In reply, Dr. Ireland said, amongst other things,—“He was not one of those who were in doubt as to life being worth living; he would gladly live his life over again, and he had found that his worst experiences had always taught him something.” This from a man of seventy-two, whose first career had been blasted, who was blind in one eye, had just enough money to live on, and had many domestic sorrows in life, shows a spirit which we all might envy. It was the utterance of a lineal descendant of John Knox, through Mrs. Welsh, the daughter of the Reformer. His striking and kindly individuality will be much missed in Edinburgh medical circles, and at the meetings of the Medico-Psychological Association, and his constant devotion to the interests of this JOURNAL renders Dr. Ireland's death a serious loss to all of us.

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The Mental Affections of Children. London: J. and A. Churchill, 1900. (A second edition of *Idiocy and Imbecility*, 1877.)

The Blot upon the Brain. Edinburgh: Bell and Bradfute, 1885. A second edition 1893.

Through the Ivory Gate—Studies in Psychology and History. 8vo. Pp. 311. Edinburgh: Bell and Bradfute, 1889.

Golden Bullets, a Story of the days of Akber and Elizabeth. Edinburgh: Bell and Bradfute, 1891.

On the Arithmetical Faculty in Idiocy and Insanity. 1891.

The Musical Faculty in Cerebral Disease. 1894.

On the Means of Preventing and Evading Insanity. *Alienist and Neurologist*, 1894.

Life of Sir Henry Vane the Younger, with a History of the Events of his Time. London: Evelyn Frost, 1905.

Reference may be made to the Index of this JOURNAL for numerous articles—e.g. “Flechsig on Localisation of Mental Processes,” “Friedrich Nietzsche,” “Comte,” “Tasso,” etc.

HENRY STILWELL, M.D.

We regret to have to record the death of one of the senior members of this Association, Dr. Henry Stilwell, who for very many years was very regular in his attendance at its meetings. Very many of the elder members were on terms of warm friendship with him, inspired by his genial kindly disposition. His death took place at Eastbourne on April 12th, at the age of seventy-three years. He was a son of the late Mr. James Stilwell, F.R.C.S., of Uxbridge. Educated at Rugby, he entered the medical profession by apprenticeship to his father. He became later a student at St. Bartholomew's on October 1st, 1853, and proceeded to Edinburgh to attend the lectures and complete his studies. He was admitted a member of the Royal College of Surgeons of England and a Licentiate of the Society of Apothecaries in 1857, taking the degree of Doctor of Medicine at the University of Edinburgh in the same year, at the early age of twenty-one years. After a voyage to Australia he was called upon to assist his father in general practice for two years in his native town, but relinquished it to join his cousin in

the management of the asylum in that district. At Moorcroft, Hillingdon, he spent the greater portion of his life, having acted as medical superintendent of that institution for forty-five years. He retired in 1906 to live at Eastbourne, where he died after a short illness.

Dr. Stilwell was a man of sterling qualities and a good specimen of the English country gentleman—a man of wide culture, and with varied interests in life. In the "seventies" and "eighties" he was a well-known figure in the hunting field. In later years he had taken to golf as a recreation. Until recently he was a regular attendant at the St. Bartholomew's Hospital decennial dinners and at the dinners of the Edinburgh University Club, and was known to a wide circle of medical friends. Of a somewhat reserved disposition, he did not often enter into discussions at the ordinary medical societies, but he was an old and valued member of the Medico-Psychological Association, which he joined in 1862. He was also a frequent attendant at the Metropolitan meetings of the British Medical Association. For years he was the local secretary of the Epsom College Benevolent Fund, in which he took a great interest. In his own special department his opinion was sound and practical. Those who have been closely associated with him learnt much from him, and found that under the cloak of his somewhat austere manner was concealed one of the kindest hearts. He had also a fund of humour about him and was able to tell a good story.

Feeling the responsibility of his position in the care of the insane he entered into the lives of his patients, and by his example induced others to do their utmost to promote their recovery. He was much liked by his patients and respected by all who knew him. Dr. Stilwell leaves a widow, a son, and three daughters to mourn their loss. The funeral took place at Hillingdon on April 16th in the presence of his son and sons-in-law, and many others.

THE CONOLLY NORMAN MEMORIAL.

At a meeting of the subscribers to the Conolly Norman memorial, held on June 8th in the Royal College of Physicians, Dublin, the report of the committee as to the arrangements made in reference to the memorial was before them, and the following resolutions were approved: (1) That the memorial shall consist of a mural tablet and bust of the late Dr. Conolly Norman, in bronze and marble, to be erected in St. Patrick's Cathedral, subject to the approval of the Dean; and a portrait in oils, to be placed in the hall of the Royal College of Physicians of Ireland.

NOTICES BY THE REGISTRAR.

The following is a list of the successful candidates at the Nursing Examination held in May, 1909:

Chester County (Upton) Asylum.—Florence Lucy Robinson, John McGethrick.
Cumberland and Westmorland Asylum.—Jeannie H. Hampson, David William Elloway, John R. Marrs, Margaret Barton, Agnes Hardy.
Glamorgan County Asylum.—Charles Henry Arthur, James Jones, James Fortune.

Herts County Asylum.—Herbert H. Hewitt, Susanna Twainley.
Kent County (Maidstone) Asylum.—Edith Wyld, James Bridges, Louis Downs William Jeffery.

Kent County (Chartham) Asylum.—Nellie Smith, Ada H. Franklin.
Lancaster County Asylum.—Ruth Tyldsley, Walter S. Webb, James Baird, Jessie Revelly, Louisa Butham, Margaret Richmond, Annie Warhurst, Lizzie Russel, Mary Egan, Jessie Tears, Annie Pearson, Dora M. Bailey, Susannah Webster.

Lancashire County (Whittingham) Asylum.—Thomas Tennant, William Murray, Charles Mahon, John William Fussey, John Dixon, George H. Douglas, Annie Pickthall, Eleanor Inglesfield, Miriam Warth, Thomas C. Hall, Charles L. Milton, Samuel Rowland.

London County (Banstead) Asylum.—Ellen Plummer, Annie Callaghan, Marion C. Cameron, Beatrice Jones, Lilian Rowe, John T. Johnson, William T. Dews, Fred. T. Songhurst.

London County (Bexley) Asylum.—Henrietta E. Hanks, Hilda M. Russell, Henry Inglis, Ernest Marshall, Charles F. Seaby, Ernest Pearce, Harold B. Goddard, Arthur Carr, Dorothy F. Briggs, Margaret Lambkin, Grace E. Payne, Rose M. Kirby.

London County (Cane Hill) Asylum.—Richard James Yandle, Alice Rye.

London County (Claybury) Asylum.—Elizabeth Neil, Horace Reginald Willcox, Albert George Smith, George Allen, Janey Mary Lloyd Edwards, Jessie Lewis, Lily May Fenton.

London County (Colney Hatch) Asylum.—Ellen Banks, Ellen Hunt, Charles Leonard Garrett, Sidney Jones.

London County (Hanwell) Asylum.—Emma J. C. Ireland, Blanche Sainty, Marjorie A. E. Robertson, Grace M. Diddams, Edith Lilian Percival.

London County (Horton) Asylum.—Kellow George Loader, William Frank Gay, Herbert James Deverell, Hilda Alice Crisp, Gertrude Mary Garner, Florence Chandler.

London County (Long Grove) Asylum.—James John Huntingford, Frederick Herbert Lawson Dermott, George Arthur Hockley.

Middlesex County (Napsbury) Asylum.—John Waine, Harold Riddell Skinner, Violet Victor Shreeve.

Middlesex County (Wandsworth) Asylum.—Elizabeth Mary Deacon, Edmund Arthur Utton, William Redman, Eleanor Willing.

Monmouth County Asylum.—Alfred Green, Lilly Ann Raines, Agnes Wilson.

Norfolk County Asylum.—Chrissie Woods.

Staffordshire County (Cheddleton) Asylum.—Violet Mary Spence.

Sussex County (Hellingly) Asylum.—Alice Edith Rushe, Maude Veronica Munton, Henrietta Helen Keating, Maud Eggleton, Alice Florence Kite, Pollie Beard, Louisa Mary Horrell, Emily P. Cserweny, Florence Mary Barnes, James Henry Tapp, George E. Holland, Francis G. Green, Charles Piper.

Sussex County (Chichester) Asylum.—Eveline M. Wood, Beatrice E. Dawe, Agnes A. Connolly, Hilda M. H. Russell, Harriet H. C. Rowe.

Wilts County Asylum.—William Joseph Bailey.

Worcester County (Barnsley Hall) Asylum.—George A. Newnham, John H. Reynolds, John Robert Chandler, John Albert Heys, Alice Maud Teddar.

Yorkshire County (Menston) Asylum.—George Quemby, Frederick William Holroyd, Francis Plunkett.

Yorkshire (Wadsley) Asylum.—John Ernest Hall, Oliver Glossop.

Yorkshire (Wakefield) Asylum.—Louise Hartley, Lizzie Jump, Mary Rear, Amy Sidebotham, Osmund Ogden, Herbert Kemp, Noble Stephenson, John Crawford, Arthur Moxon.

Yorkshire (Storthes Hall) Asylum.—William Lee, Patrick McCarthy, Fred Cawthray, Gertrude Holmes, Emily Hughes, Annie Jolly.

Yorkshire (Scalebor Park) Asylum.—John Walker Bateson, Alfred Clarkson, Henry Firth.

Birmingham City (Winson Green) Asylum.—Richard A. Gilder, Florence Margaret Turner.

Birmingham City (Rubery Hill) Asylum.—Louie Bird, Amy M. Callingham, Hettie Matthews, Hannah Timmins, Lily Daisy Bryant, Emily P. Tate, Abiathar Hancox, William H. Bingham, Edith K. Robinson.

Bristol City Asylum.—William Charles Stevens.

Canterbury Borough Asylum.—Amy G. Tabbernor, Keith S. Webster.

Cardiff City Asylum.—Tamar E. Walton, Herbert Dart, Arthur Gregory, Fanny A. T. Nigh, Nora Downes, Elizabeth N. R. Mathieson, Frederick R. Knight.

Derby Borough Asylum.—Marie Christopersen, Arthur William Wooley.

London City Asylum.—John Ekins, Esther Connolly.

Newport Borough Asylum.—Catherine Hughes.

Nottingham City Asylum.—William Nuttall, Thomas Sutcliffe.

Portsmouth Borough Asylum.—William Henry Taylor, Walter Horner.

Sunderland Borough Asylum.—Thomas McLennan, Ellen Openshaw, Ada Elders.

- West Ham Borough Asylum*.—George M. Moran, Frank Chard, Albert E. Tyler, Elisha Blackford, William Allen.
- York City Asylum*.—Thomas Everingham.
- St. Luke's Hospital*.—Florence S. Eales.
- Bethlem Royal Hospital*.—Annie Selby, Janet E. Knight, Florence Rose Dawson, Robert T. I. Railton, Albert Allcock, Albert Henry Essex.
- The Retreat (York)*.—Florence M. Byrne, Elizabeth W. Cochrane, Anastasia M. M. Donnell, Bella M. Ellerton, Christiana M. Elsmere, Agnes W. Forbes, Beatrice L. M. Goddard, Mary Keenan, Mary Anne Maskill, Alice E. Stevens.
- Darenth Asylum*.—Edwin James Williams, Ernest Edgley, Alice V. Bamber, Ella M. Samuel, Grace E. Sainsbury, Elizabeth Prendergast, Alice E. Gilbert.
- Leavesden Asylum*.—David Cowan, Charles William Carnock, Margaret O'Callaghan, Edwin Osler, Arthur G. Channing.
- Private Nurses*.—Lottie Josephine Toomey, Mary Louisa Stollard.
- Aberdeen (Kingsseat) Asylum*.—Beatrice West, Mary H. Jameson, Mary J. Anderson, Alice Walker.
- Aberdeen Royal Asylum*.—Ellen Forbes Maitland.
- Argyle and Bute Asylum*.—James Gillies, Mary S. Wood, Catherine Bain, Jessie Horne.
- Ayr Asylum*.—Mary Christie, Agnes Smith, Jean Haddow, Margaret Haddow.
- Crichton Royal Hospital*.—Williamina Merchant, Margaret McCollin, Mina Irvine.
- Dundee Asylum*.—Annie Elizabeth Will, Margaret J. Ritchie, Christina W. Simpson, Catherine L. Christie, Lizzie S. B. Rankin, Hector Fairweather.
- Edinburgh Royal Asylum*.—Mary Nicol, Kate W. Dougal, Ellen Mackenzie, Margaret Stewart.
- Edinburgh (Morningside)*.—Margaret M. Muir.
- Edinburgh District Asylum*.—Annie MacDougall, Winifred Berry.
- Fife and Kinross Asylum*.—William King, Jessie J. McGillivray, Jessie J. Park, Jessie H. McDonald, Lucy Merson, Nellie Budge.
- Glasgow (Gartloch) Asylum*.—Frederick M. Murray, Emily W. Schofield, Mary C. Shand, Jessie L. Berry, Andrewina Bryce, William Grant.
- Govan District Asylum*.—Isabel McGregor, Margaret Morris.
- Inverness District Asylum*.—Ella M. Cameron, Gertrude Freestone, Annie Innes, Catherine Munro, Bessie S. Rome, Alice Mabel Sawyers, Agnes Taylor, Dougald Macdonald.
- Lanark District Asylum*.—Lydia E. Allan, Jane Ann Reid, Helen M. Cuthbertson.
- Roxburgh District Asylum*.—Barbara Robertson, Louisa C. Miller, Jessie N. Findlay, John Fox, Jeanie Gordon.
- Perth District Asylum*.—Lizzie MacLean.
- Midlothian and Peebles Asylum*.—Elizabeth D. Scott, Elizabeth P. O'Neill, Marjery Robertson.
- Craw Road, Paisley*.—Jean S. Campbell.
- Montrose Royal Asylum*.—Mary Macdonald, Annie Kennedy, John Thomson, James Anderson.
- Glasgow Royal Asylum*.—Ludovic Mackay, Robert Barclay, Constance Winter, Marjaretta Pearse, Grace M. Frater.
- Stirling District Asylum*.—Margaret Livingstone, Joseph Rushton, Mary C. Fleming, Margaret G. Suttie, Margaret Moore, John Murray, Isabel Phillips.
- Glasgow District Asylum (Woodilee)*.—Catherine Stretton Galloway, Hugh Brown.
- James Murray's Royal Asylum (Perth)*.—Jessie Scott Gray, Mary Stanley Roberts, Ida C. K. Macpherson.
- Elgin District Asylum*.—Sarah Annie Emslie, Helen Innes, Jeannie Ann Galt.
- Armagh District Asylum*.—Mary Ann McAleavy, John Alexander Davis.
- Ballinasloe District Asylum*.—Bridget Noone, Thomas Hoary, Sarah Gilligan.
- Belfast District Asylum*.—Caroline Ground, John Bell, Thomas Pritchard, William E. Patterson, Michael Devlin, Sarah Andersen, Mary Armstrong, Mary Robinson, Lilian Crean, Martha Hall.
- Carlow District Asylum*.—Annie Treacy, John Brennan, Gerald Brennan, Stephen Nolan.
- Down District Asylum*.—John Fee, George Black, Bernard Corcoran, Arthur

Maglennon, William P. Tomulty, Mary Quinn, Susan Torrens, Christina Fitzpatrick, Annie Winifred Kerr.

Enniscorthy District Asylum.—John Cowman, Owen Murphy.

Mullingar District Asylum.—Mary Anne McCormack, Joseph Quinn, Thomas Gerety, Peter McCormack, Kate Murtagh, Richard Stokes.

Omagh District Asylum.—James Hurst.

Portrane Asylum.—John Clynch, Timothy Brosnau, Martin O'Brien.

Richmond District Asylum.—Mary K. Byrne, Frances Phelan, Mary E. Caffrey, Sarah Jane Watters, Sarah Curtis, Katie Heavey, Johanna Butler, Janette Mulligan, Annie Lohan, William Phelan, James Ramsbottom, Patrick Gilroy, Thomas Hynes.

Waterford District Asylum.—Patrick Power.

Highfield.—Martha Crawford Dunlop.

St. Patrick's Hospital.—Rebecca McDonald, John Quinn.

Farnham House.—Mary Ellen McGrath.

Warwick County Asylum.—Henry Jenkins, Harry Venables, George Salenger, Mary Jane Pinfold, Ida Walker, Phoebe Ruth Drage, Minnie Brightwell.

Croydon Borrough Asylum.—Gertrude Isabel Aldridge, Queenie Alberta Gough.

The following is a list of the questions which appeared on the paper :

1. What is meant by the pulmonary circulation? Describe it, and mention the purposes it serves.
2. What symptoms would lead you to think that a patient might be suffering from disease of the kidneys?
3. Describe step by step how you would prepare and apply a hot fomentation.
4. With what bones is the shoulder-blade directly connected? Briefly describe the joints uniting the bones in question.
5. What are the constituents of milk, and how are they digested?
6. How would you prepare for use (a) a red rubber catheter, (b) a red rubber nasal-feeding tube? Why is it needful to exercise greater care in one case than in the other?
7. What do you understand by the intellectual faculties? Briefly state how these are affected in chronic alcoholic insanity.
8. What is meant by exaltation of mind? Describe a case of exaltation that you have seen.
9. What precautions would you observe in taking an epileptic patient for a walk?
10. If you are sent to a private house to attend a patient who is thought to be suicidal, what matters would you attend to about the house and garden?

The next examination for the Nursing Certificate will be held on Monday, November 1st, 1909. For particulars apply to the Registrar, Dr. Alfred Miller, Hatton Asylum, Warwick.

LIBRARY NOTICES.

The following Additions have been received :

Presented by Dr. T. L. ROGERS :

Pritchard's Natural History of Man, 2 vols., 1855.

Burton's Anatomy of Melancholy, 1857.

Etoc-Demazy's De la Stupidité, 1833.

Pinel's Medico-Philosophique sur l'Aliénation Mentale, 1809.

Wigan's Duality of Mind, 1844.

Presented by the EDITORS of JOURNAL OF MENTAL SCIENCE :

Pelman's Psychische Grenzzustände, 1909.

The Library Committee desire to remind Members that books can be posted to them on application to the Resident Librarian, 11, Chandos Street, W.

INTERNATIONAL CONGRESS OF PSYCHOLOGY.

The Sixth International Congress will be held at Geneva on August 3rd to 7th, 1909. A very interesting programme has been arranged. The subscription is 20 francs, and the Treasurer is Monsieur Lucien Cell  rier, Montchoisy, Geneva.

NOTICES OF MEETINGS.

MEDICO-PSYCHOLOGICAL ASSOCIATION.

The sixty-eighth Annual Meeting of the Association will be held on Thursday and Friday, July 22nd and 23rd, 1909; at the West Riding Asylum, Wakefield, on the Thursday, and at the Queen's Hotel, Leeds, on the Friday, under the Presidency of Prof. W. Bevan-Lewis.

There will be meetings of committees as follows: On Wednesday, July 21st, at the Queen's Hotel: Parliamentary Committee, 2.45 p.m.; Educational Committee, 3.45 p.m. The Council will meet at 9.30 a.m. on Thursday, July 22nd, at Wakefield Asylum.

The Annual Meeting will commence at 11 a.m. on Thursday, July 22nd, at Wakefield Asylum, when the usual business of the Association will be transacted.

2 p.m.—The President's Address, after which Dr. A. HELEN BOYLE will give "An Account of an Attempt at the Early Treatment of Mental and Nervous Cases (with special reference to the Poor)."

Friday, July 23rd, at 10.30 a.m., at the Queen's Hotel, Leeds.—The following papers will be read: Dr. J. R. GILMOUR on "The Mental Symptoms in Exophthalmic Goitre and their Treatment." Dr. NATHAN RAW on "A Case of Acute Mania relapsing into Unconsciousness lasting Seven Months." Dr. G. SCOTT WILLIAMSON on "The Cerebro-spinal Fluid in General Paralysis and the Nervous Lues."

2 p.m.—Dr. G. SCOTT WILLIAMSON on "The *Bacillus paralyticus*." Dr. FORD ROBERTSON on "The Experimental Production of General Paralysis." Dr. L. O. FULLER on "Alcoholism, Crime, and Insanity."

The Annual Dinner will take place on Thursday, July 22nd, at the Queen's Hotel, Leeds, at 7 for 7.30 o'clock. The charge for dinner tickets (wines included) will be one guinea, and payment should be made either by cheque or in cash to the Treasurer, who will supply a voucher.

Luncheon on Friday will be provided at the Queen's Hotel at 2s. 6d. each, exclusive of beverages.

Synopsis of Times and Places of Meeting.—Wednesday, Queen's Hotel, Leeds: 2.45 p.m.: Parliamentary Committee; 3.45 p.m., Educational Committee Thursday.—Wakefield Asylum: 9.30 a.m., Council; 11 a.m., Annual Meeting, 1 p.m., Luncheon; 2 p.m., Meeting. Thursday.—Queen's Hotel, Leeds: 7 p.m. Annual Dinner. Friday.—Queen's Hotel, Leeds: 10.30 a.m., Meeting; 1 p.m. Luncheon; 2 p.m., Meeting.

South-Eastern Division.—The Autumn Meeting will be held, by the courtesy of Drs. Adams and Johnston, at Brooke House, Upper Clapton, N.E., on Wednesday, October 6th, 1909.

South Western Division.—The Autumn Meeting will be held, by the courtesy of Dr. Blachford, at Fishponds Asylum, Bristol, on Friday, October 22nd, 1909.

Northern and Midland Division.—The Autumn Meeting will be held, by the courtesy of Dr. Douglas, at the Royal Albert Asylum, Lancaster.

Scottish Division.—The Autumn Meeting will be held on Friday, November 19th, 1909.

Irish Division.—The Autumn Meeting will be held on Saturday, November 6th, 1909.

APPOINTMENTS.

Bidie, Evan, L.R.C.P.&S.Edin., L.F.P.S.Glasg., Assistant Medical Officer, Wye House, Buxton.

French, Margaret Douglas, M.B., B.S.Durh., Junior Assistant Medical Officer, North Riding Asylum, Clifton, York.

Kerr, C. Lawson, M.B., Ch.B.Glasg., Assistant Medical Officer, Argyll and Bute District Asylum, Lochgilphead.

McKillop, M.B., Ch.B.Edin., Junior Assistant Physician, District Asylum, Inverness.

Masson, Charles Armit, M.A., M.B., Ch.B.Aberd., Senior Assistant Physician, District Asylum, Inverness.

Rutherford, James M., M.B., C.M., M.R.C.P.Edin., Senior Resident Physician, Brislington House, Bristol.

Smith, R. Percy, M.D., F.R.C.P., has been elected an Honorary Member of the Societa Freniatria Italiana, and a Corresponding Member of the Verein für Psychiatrie und Neurologie of Vienna.

Steen, Robert Hunter, M.D.Lond., Professor of Psychological Medicine, King's College, London.

White, Ernest W., M.B.Lond., Emeritus Professor of Psychological Medicine, King's College, London.

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Part I.—Original Articles.

The Presidential Address, on the Biological Factor in Heredity⁽¹⁾, delivered at the Sixty-eighth Annual Meeting of the Medico-Psychological Association, held at Wakefield on July 22nd and 23rd, 1909.
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THERE can, perhaps, be no more pleasing conviction than that which assures a man he has won the approval of his fellows; and in gratefully acknowledging the great honour conferred upon me to-day in my election to the Presidential Chair this conviction is mine, and I take the award as an earnest of your good will and confidence. But, as in the richer harmonies of human life the minor chord will ever assert itself, so the knowledge of one's personal limitations introduces a note of sadness, for one is forced to recall how very little, even of one's best, one can give in return for so invaluable a pledge of the esteem of one's fellow-men.

Yet this is but the discipline of life, which meets us at every stage—the spirit may be willing but the flesh is weak—and one can only accept the position with equanimity, resting upon the assurance of the generous sympathy of their fellows, and their readiness to condone all short-comings; in this conviction I can start hopefully and trust that the termination of my office as your President next year may still find me in possession of your approval.

In the choice of a subject for my address I confess to have met with no small difficulty. A glance at the long list of dis-

tinguished men who have occupied the Presidential Chair, and who have dealt in so masterly a fashion with the numerous subjects of interest bearing upon psychiatric medicine and cognate branches of science, convinced me that my more discreet course would be to choose a theme, which, although of profound interest, has yet suffered comparative neglect at the hands of our specialty, and, indeed, of the medical profession as a whole. The subject I have chosen is that of "The Biological Factor in Heredity," and I think we shall all be in agreement that the subject is one of momentous importance to the community at large, as well as to ourselves in particular; that the more we arouse ourselves from the lethargy which has permitted statistical studies of heredity to overshadow the truly physiological aspect, based upon direct experimental research, the more frequently we insist upon careful analytic treatment of the biological factors concerned, the more rapidly shall we attain to that goal of our ambition—an exact knowledge of the causes underlying the hereditary transmission of disease.

This statement by no means ignores the methods of the statistician—the biometric method as it is termed; it would be futile to ignore the importance of the elaborate researches of Sir Francis Galton, Karl Pearson and others (23, 24, 25); each method has its own application, yet it is necessary to insist that the biological method is supremely that which is proper to the physician to study, that vast opportunities are afforded us of amassing data for the physiological study of heredity, and that by it alone can we hope to unravel the many problems of genetics.

I shall endeavour to give a *résumé* of the law enunciated by Mendel as the groundwork of our conception of germinal variation and transmission, especially emphasising those apparent exceptions which are regarded by opponents of his system as inconsistent with Mendelian principles, objections which have been triumphantly refuted, and shown to depend upon fallacies of interpretation. And finally I shall endeavour to indicate how our views upon the hereditary transmission of disease are affected by these teachings.

Mendel's Law.

When Gregor Johann Mendel, Abbot of Brunn, in 1865 enunciated the law known by his name, the secret of the dis-

covery which has made that name so famous was revealed to him as the result of very numerous but carefully planned experiments upon plants grown in his cloister garden. The experiments in themselves were simple, his material was simple, his methods were simple, but every question put to Nature was clear and incisive, and so framed as to admit of no ambiguity in reply. From the outset his inquiry was *biological*, his attention was concentrated upon the *individual*; he intuitively refrained from dealing with large numbers or masses of individuals collectively, and hence his methods were notably contrasted with the statistical method from the first. Moreover, Mendel saw how futile it was even to deal with the whole individual plant or animal as a single unit; and the crowning feature of his method was that of dealing strictly with single characters of the most elemental nature—single characters strongly contrasted.

He began, as all of us are aware, with the common edible pea (*Pisum sativum*), some twenty-two varieties or sub-species being selected for this purpose, a plant whose hermaphrodite organs in the natural state are enclosed in the well-known keel, ensuring self-fertilisation, and securing it against the possibility of cross-fertilisation by foreign pollen windborne, or brought through the agency of insects to its stigmata. His object was, of course, by careful removal of the anthers prior to their full development to prevent self-fertilisation, and then by pollination by a strongly contrasted plant to note the features revealed, first by the hybrids so produced, and secondly upon crossing these hybrids *inter se*, or by self-fertilisation, to note the characters of the second generation. The essence of all such experiments in hybridisation, of course, consists in the artificial selection of the gametes, *i.e.*, the pollen or spermatozoa of a male plant or animal of strongly marked characteristics, for union with the gametes, *i.e.*, the ovules or ova of a female individual. The germ-cells or gametes, as bearers of the parental legacy, contain all the factors which presumably determine the characters of the resulting offspring, and upon the union of the male and female gametes in the fertilised ovum or zygote both series of parental characters are, for the first time, brought into close association. Upon this "setting to partners" of the sexual gametes great issues depend—in fact, upon the selection of partners would result the constitution of the individual zygotes.

In his experiments with peas Mendel crossed plants which presented seven strongly marked characteristics, and each of these characters were separately examined. They were as follows :

Tallness of stem as contrasted with dwarfness ;
Axial flowers as contrasted with terminal false umbels ;
Green unripe pods as contrasted with yellow unripe pods ;
Inflated ripe pods with wrinkled ripe pods ;
Round and smoothish seeds with deeply wrinkled seeds ;
Yellow as contrasted with green cotyledons ;
Coloured as contrasted with nearly colourless seed-coats.

Two remarkable features were uniformly revealed in the first and second generation (or F_1 and F_2 as they are termed) of hybrids so produced, when either of these contrasting characters were the subject of experimentation :

(a) The phenomenon of dominance and recessiveness—the first term of the above series being always dominant ;

(b) A certain definite ratio of progeny in the second generation bearing each contrasted character.

Taking a concrete instance for illustration, a plant with smooth seeds, which had always bred true for that character, is crossed with one equally pure for wrinkled seed. It matters not which is the pollen plant and which is the seed plant, the cross always results in hybrids which have *smooth* seeds ; smoothness is therefore said to be *dominant* to the wrinkled state, which latter is regarded as a *recessive* character. So far we cannot distinguish the seed of our hybrid from that of its smooth-seeded parent, although we know that it must embrace a bi-parental constitution. What has become of the wrinkled feature ? Has it been neutralised or completely lost, or does it remain latent in the round smooth seed ? The question is answered when these seeds are sown and the second generation of hybrid plants self-fertilised. In this second generation, or F_2 , the recessive character of *wrinkled* seed reappears, whilst the remaining seeds show the dominant character of smoothness, and always in the proportion of 3 dominants to 1 recessive.

If these recessives are sown and allowed to self-fertilise, the pods invariably contain wrinkled seeds alone, and ever afterwards *breed true*. When the dominants, however, are sown and self-fertilised they split up into one-third smooth dominants, which ever afterwards breed true on self-fertilisa-

tion and are therefore *pure*, and into two-thirds *impure* dominants or dominant recessives $D(R)$, which on self-fertilisation reproduce dominants and recessives in the ratio of 3 to 1 as before. Thus it becomes evident that the real constitution of the F_2 generation of zygotes is that of one pure dominant to two impure dominants and one pure recessive, or as it may equally well be expressed: 25 *per cent.* D ; 50 *per cent.* $D(R)$; 25 *per cent.* R .

The same was shown to be true for all the seven characters given above; the first hybrid generation illustrates the law of dominance, the second generation in the splitting-up and re-arrangement of characters is in accordance with the law of gametic segregation. Similarly for other characters, had we chosen that of tallness and dwarfness, and cross-fertilised the tall plant with the pollen of the dwarf, or *vice-versâ*, the hybrids of F_1 would all have been *tall*; tallness is therefore dominant to the recessive character of dwarfness. Yet the pods of F_2 will contain seeds showing dominant and recessive characters in the ratio of 3 D to 1 R . As with the smooth and wrinkled seed, the dominant or tall plant self-fertilised splits into the two series, one-third of which always breed true, whilst two-thirds still embrace the dwarf and tall factors conjoined and are consequently impure dominants or dominant-recessives; whilst the recessive or dwarf plants self-fertilised always beget seed pure to the dwarf character. By continuing this self-fertilisation of the pure dominants, pure recessives and impure hybrids, we may indefinitely reproduce the same forms in the same proportion of 25 *per cent.* DD , 50 *per cent.* $D(R)$, 25 *per cent.* RR . Hence the Mendelian concept of the germ-cell (gametic constitution) was that of an aggregate of definite elemental unit characters, each unit character presupposing the existence of its opposite or antithetic unit, never in the same gamete, but always in another. Thus arose the mental picture of *pairs of separate unit characters*, the members of each pair being mutually exclusive of each other—allelomorphic pairs as they have been termed—and in which no two members of a pair can occupy the same gamete. Only when by amphimixis the male and female gametes unite in the fertilised ovum or zygote could these unit characters be brought into juxtaposition, and then the association of similar characters would result in a *homozygote* as DD ; the association of dis-

similar or contrasting units would result in the *heterozygote* as D(R).

When two individuals are crossed, distinguished by notably contrasted characters, one of which is dominant to the other, the resulting zygote will of course embrace *both* parental characters, although the recessive feature may be wholly concealed by the dominant. During the differentiation of such a heterozygote into its somatic and germinal elements a stage must be reached where the primary germ-cells, in splitting into their two daughter-cells, would pass the whole of the dominant factors into one daughter-cell, and all the recessive factors into that of the other. In the subsequent division of these daughter-cells into gametes a double series in equal numbers would result, one bearing the dominant, the other the recessive unit character. As before stated, the two members of the allelomorphic pair can never occupy the same gamete; hence results the theory of *gametic purity*. When, however, two gametes (male and female) coalesce in a fertilised zygote, the like or unlike units, dominant or recessive allelomorphs, may occupy the *same cell*, and in the shuffling of these sexual gametes the association of like or unlike factors in the resulting individuals will follow the Law of Probabilities. Hence arose the generalisation called the *Law of Gametic Segregation*. The Mendelian concept embraces, therefore:

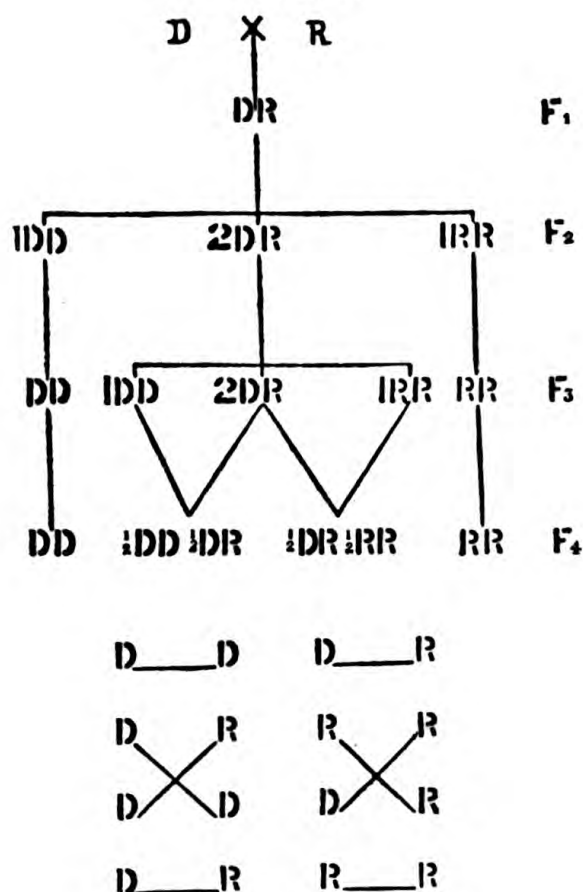
- (a) The doctrine of unit characters or allelomorphic pairs;
- (b) The theory of gametic purity;
- (c) The law of gametic segregation;
- (d) The doctrine of dominance.

As we shall see later on, the third, or the law of gametic segregation, is the *all essential* principle in Mendel's teaching.

The pure dominants and pure recessives are homozygotes reproducing the separate parental forms—we may term them DD and RR respectively. The impure dominants are heterozygotes uniting both parental characters and may be termed D(R). The formula for the second generation, F_2 , will therefore be 1 DD, 2 D(R), 1 RR. Both side-links, we observe, are illustrations of *discontinuous* variation. Now if we cross either side-link with the middle term, the result will be 50 *per cent.* of each member of the cross; for since in the cross $DR \times RR$ the only possible interchange can be DR, RR; and the only possible combination in the cross DR

$\times DD$ can be DR , DD , we have here an important corollary of Mendel's law to the effect that in a cross between a heterozygote and either a pure dominant or recessive form, one half (50 *per cent.*), will be *pure* dominants or *pure* recessives respectively, and the other half *impure* dominants or heterozygotes.

SCHEME I.



What occurs if instead of one only we take two or more pairs of differentiated characters for examination? The result now is far more complex; the separate allelomorphic pairs act quite independently of each other, whilst strictly conforming to Mendel's law. Two pairs of unit characters will give us four groups of individuals differing from each other and comprising 16 distinct forms. Three pairs of unit characters will give us 8 groups comprising a total of 64 distinct individuals; four pairs of unit characters will give us 16 groups with a total of

256 distinct individuals ; whilst five pairs of unit characters comprise 32 groups with a total of 1024 separate individual forms. For every additional pair of unit characters we have to double the number of differentiated groups, and on squaring these groups we ascertain the number of individuals which must be grown to show all the possible combinations. Thus, as De Vries indicates, in the case of seven pairs of unit characters there would be 128 differentiated groups, requiring the growth of 16,384 individuals to show all the distinct forms ; and even in this huge assortment there would be only one individual

SCHEME 2.

TT YY	Tt Yw	Td Yy	Td Yw
Tt wY	TT WW	Td wY	Td WW
Dt Yy	Dt Yw	DD Yy	DD Yw
Dt wY	Dt WW	DD wY	DD WW

which would be pure for all the seven dominant unit characters and one only for all the seven recessive unit characters (1).

But neglecting these very complex combinations, let me for a moment direct your attention to the scheme above, and which many will recognise as slightly modified from one given by Punnett in his charming little work on Mendelism. It is here supposed that two parents homozygous for *two* contrasted pairs of unit characters are crossed, say tallness and dwarfness, with yellow flowers and white, one having the dominant character represented by capital letters, T and Y, the other the recessive characters shown by smaller letters, d and w respectively. The resulting hybrids of the first cross, F₁, will of course

be dominant—*all will be tall yellows* (TY). When interbred the real constitution of these zygotes becomes apparent as four groups, two of which reproduce the parental features, whilst two others are *novel* forms. The chart represents, you observe, 16 squares : each square is a separate individual or zygote of this F_2 generation, and its constitution is shown in respect of dominant and recessive features by the letters appended to each. Note that the darker-shaded squares, nine in number, have both dominant features, T and Y, present, forming a distinct group by themselves ; that a group of three carry one dominant character only, that of tallness (T) ; a further group of three carry the dominant factor of the other allelomorphic pair only for yellow (Y) ; whilst a single square in the lower right-hand corner has neither dominant, but, in lieu thereof, both recessive features (d and w). Our formula, therefore, is—9 TY, 3 Tw, 3 dY, 1 dw, or more simply, 9, 3, 3, 1. Then at the top of the left-hand corner you find the only zygote pure for both dominant characters (TY) ; so of the nine forms containing both dominant characters *one only* would be homozygous, *i.e.*, pure and fixed, and would breed true. Of the first group of three dominant for T, *one only is pure* for that character ; of the second group of three dominant for Y, *one also is alone pure* for that feature ; and the remaining zygote at the lower left-hand corner is pure for both recessive characters, dwarfness with white flowers (d and w).

Mutation or Discontinuous Variation.

Ever since the epoch-making publication of the *Origin of Species*, modern thought has been profoundly influenced by Darwin's teaching that new species come into existence through the operation of selection acting upon *continuous, minute, fluctuating variations* through the survival of the fittest. Although this luminous idea was so universally accepted, ominous protests were heard from at least one great biologist, notably Professor Huxley, against the limitation of selection to *minute variations* of a continuous, fluctuating character. In his appreciative letter to Sir Chas. Lyell upon the appearance of *The Origin*, he sounds this note of caution : "The fixity and definite limitation of species, genera and larger groups appear to me to be perfectly consistent with the theory of

transmutation. In other words, I think *transmutation* may take place without transition" (2). He instances the history of the Ancon sheep, and of Reaumur's six-fingered Maltese family, adding that the new form appeared at once in full perfection. Huxley also suggests that in *The Origin* Darwin had loaded himself with an unnecessary difficulty in adopting *Natura non facit saltum* so unreservedly. It was left, however, to quite recent times for tangible evidence of an important nature to be adduced that it is probably not by selection operating on these minute variations that species have arisen, but through the sudden occurrence of *discontinuous variation* or *mutations* as they are called; selection is *not in itself competent* to produce new species, although it helps in their survival. Not only do we recognise these discontinuous variations, but we have through Mendelian theory and methods a clearer conception of their nature and origin—we regard such variations as due to the *presence* or *absence* of Mendelian factors, and can realise their genesis and distribution by gametic segregation. New species or mutants suddenly appear at a single step, without intermediate or transitional forms, whether such steps be small or great, the individual arrives at once into a state of organic equilibrium. Hugo de Vries, who was largely responsible for resuscitating the discoveries of Mendel, which had laid unnoticed for over five and thirty years, reasserted the *per saltum* doctrine of evolution in his remarkable work on the "Mutations Theory" (3); and in this country Professor Bateson, the acknowledged champion of Mendelism, has added an enormous stimulus to such views by his experimental inquiry into the occurrence of mutation, and by the elaborate collection of facts given in his *Materials towards the Study of Variation* (4), and his late work on *The Principles of Mendelism* (5). On turning over the pages of de Vries' work, charming in their freshness, lucid to a marvellous extent in exposition of a difficult theme, firm in their grasp of essential principles, one can imagine what a flood of light broke upon the Dutch biologist's vision as he reviewed the work of Mendel and laboured in his garden at Amsterdam. Like Mendel he put questions to Nature by direct experimentation—the only method sure of success—and thereby acted upon the far-sighted suggestion of Huxley, who, writing to Sir J. Hooker in 1861, says: "The great desideratum for the species question at

present seems to be the determination of the law of variation. . . . It is [in] the full recognition of a tendency to variation, apart from the variations of what are ordinarily understood as external conditions, that Darwin's view is such an advance upon Lamarck. *Why does not somebody go to work experimentally, and get at the law of variation for some one species of plant?* " (2) (2)

By so doing de Vries established a method previously assumed to be impossible, *viz.*, that of *observing* the direct origin of new species. He repeatedly tested Mendel's conclusions, but on a much wider range of plants; and in the remarkable experimental observations on a mutating species of the evening primrose (*Oenothera Lamarckiana*), showed how new species *were at the present time* arising around us by sudden mutations, like the new positions assumed at *one step* by the well-known Galton's polygon, these definite steps of more or less considerable amplitude (discontinuous) contrasting with the small oscillatory fluctuations of *continuous* variation.

In his zeal to indicate the supposed failure of Mendelian results as explanatory of the phenomena of inheritance, the statistician has scarcely accorded that justice to be expected from the candour and fairness of the scientific opponent. The Mendelian school of thought is as yet only in its first decade, since the epoch-making investigations of its great originator laid dormant in the archives of the Natural History Society of Brunn ever since 1865, until brought to light through the efforts of de Vries, Tschermak, Correns, and Prof. Bateson nearly forty years later. Results of weighty import have already accrued from the application of its principles, and it is surely premature in view of these results and of the nine short years devoted to the work to challenge the validity of its principles upon the ground of several exceptions, however serious, which have not as yet been fully worked out. Fallacies of interpretation are certain to occur in the investigation of so complex a biological problem as that of hereditary transmission, and such fallacies may occur at any one stage from the earliest appearance of the germ-cells to the complete maturity of the zygote and the subsequent generations of such zygotes.

Some Fallacies of Interpretation.

If we glance over the field of gametogenesis we readily see

how such fallacies are introduced, not alone in the stages of reduction of chromosomes and maturation of the gametes, but in a *possible* struggle due to the operation of a selective factor between sexual gametes at the period of fertilisation. Certain disturbing factors are prone to cause failure of the zygotic ratio, which yet by no means invalidate the general application of Mendel's law. The failure again to appreciate the fact that dominance and purity are non-essential features of Mendelian inheritance has misled others, whilst the *coupling* of unit characters may complicate results, or certain factors may be overlooked which place a restraint upon the outward expression of a unit character, or assign to what is usually a dominant influence a recessive feature.

Gametic Segregation.

Let us take the phenomenon of segregation first into consideration. It is, of course, a well-established cytological fact that the primitive germ-cells, male and female, contain the same number of chromosomes as do the somatic cells, and that such numbers are constant and peculiar to each species of animal and plant hitherto examined (6). On the other hand the matured germ-cell has the number of its chromosomes invariably *halved* preparatory to fertilisation. The differentiation of the primordial egg-cell from the somatic cells may occur very early or quite late in the ontogeny of the organism—in some of the lower forms of life this may even be apparent during the cleavage stage. In any case a period of rapid division and subdivision of the primary egg-cell must ensue, resulting in numerous oögonia, succeeded by a period of rest during which these cells grow in size, acquire a germinal vesicle, yolk, etc., and become true ovarian eggs or oöcytes. It must always be borne in mind that development and differentiation begin long prior to the stage of cleavage during the ovarian life of the germ (6). The *maturation* of the ovum now ensues, *i.e.*, the formation and extrusion of the polar bodies, sometimes prior to fertilisation as in *Echinus*, but usually after the entry of the spermatozoon. This maturation stage essentially depends on two distinct events: (a) Division of the chromosomes by mitosis into two halves; (b) removal of the one half by means of the two polar bodies.

The process begins in the grandmother-cell of the matured ovum, and is known as the reduction-stage, since the original number of chromosomes characteristic of the somatic cells is reduced to one-half. From the upper pole of the ovum first one and then a second minute cell is thrown off containing the residual half of the egg chromosomes, and the first polar body divides into a third cell, so that the final period gives us the maternal ovum and three minute aborted egg-cells. Now Blochmann (7) demonstrated the fact that the parthenogenetic eggs of *Aphis* produce but a *single* polar body, whilst the fertilised eggs produce two, and the same fact is recorded for Rotifera and Ostracodes by Weismann. Boveri and Brauer (6) found the second polar body occasionally retained within the ovum of *Ascaris* and *Artemia*, and in such cases fertilisation was really induced by *the retained polar body acting in the rôle of a spermatozoon* (6).

The formation of the spermatozoa is essentially the same, but in lieu of the four last divisions being a mature ovum and three aborted egg-cells, the four cells are equipotential and functional spermatozoa (6). It is at this reduction-stage that, by almost universal opinion, segregation into allelomorphic pairs is supposed to occur, although as yet we possess no absolute proof that this is the case. We shall find later on that in *Hieracium* *no reducing-division* occurs in certain ovules; they are incapable of fertilisation and segregation fails (5).

Failure in Segregation.

Now, since the essential feature of Mendelian theory is gametic segregation, where this can be shown to be absent a strong argument appears forthcoming against the universal application of Mendel's law. When certain hybrid forms of F_1 are said to *breed true*, as is often asserted, such a difficulty presents itself, since this would imply *absence of segregation*. We all know the minute strap-shaped and tubular florets of the Compositæ, and can appreciate the very great difficulty of opening up these delicate tubules at an early date and removing the cohering anthers before the pollen has been scattered. Yet this was the task undertaken by Mendel on a large scale for the common hawk-weed (*Hieracium*), and with the result, we are told, of much injury to his eyesight. Mendel's object was to obtain hybrid

forms by pollination by another parent. Such hybrids were obtained only with the greatest difficulty, most of the florets being sterile ; but the general results were disappointing and conflicting. It is now, however, known, through the researches of Ostenfeld, that if we castrate these florets in both the common dandelion (*Taraxacum*) and the hawkweed (*Hieracium*), by removing both anthers and stigma, the seed still becomes matured (9). This very extraordinary fact shows us that reproduction is here parthenogenetic, the maternal type only being reproduced. Beyond this, if these parthenogenetic gametes are examined microscopically they are all found to have undergone *no reducing-division*, the chromosomes remaining what they are for the somatic cell (10). Here, then, we have no genuine sexual reproduction at all, but an asexual process similar to that whereby buds and cuttings reproduce invariably the parent form without modification (5). The evidence that the unreduced egg-cells merely reproduce the maternal type is, of course, a strong support to the view that it is in the reduction-division that the segregation of factors is effected (5). Whilst in the animal kingdom the Aphides stand out prominently as the notable examples of parthenogenesis, we know that this remarkable phenomenon occurs in a large number of the Insecta. Thus in some saw-flies (*Tenthredinidæ*) some species beget only male, some only female, and others both male and female offspring parthenogenetically. The gall-flies also (*Cynipidæ*), the social Hymenoptera, and exceptionally some species of Lepidoptera, will produce offspring in the same manner. Lately, however, as indicated by Professor Bateson, this phenomenon is found to be far more common than formerly was supposed among flowering plants apart from the *Compositæ* ; and we must be prepared, therefore, to make due allowance for parthenogenetic reproduction as explanatory of the absence of segregation.

Still more remarkable are cases where, although the reproductive processes are parthenogenetic, pollination seems to be absolutely essential to *start the process*. Yet there is no proper fertilisation—no amphymixis—the offspring is purely of maternal type, as there is no segregation. The effect of pollination is apparently merely a stimulus to development, whilst no admixture of parental characters can occur. An orchid (*Zygopetalum Mackayi*) was shown by Hurst to require pollination from other

orchid forms merely to start the self-same parthenogenetic process (11). Such an anomalous reproduction is termed by Bateson *monolepsis* in contrast with the natural form or *amphilepsis*, where characters come in from both parents (5).

Cases occur, however, where apparently segregation fails, although the usual reproduction takes place. A good instance is that given by Castle, who crossed the long-eared lop-rabbit with the short-eared animal. The F_1 hybrids were not only intermediate in length of ear but maintained this character through further generations, never reverting to either parental type (12). De Vries illustrates this defective segregation in respect of the hybrid betwixt the common evening primrose (*Oenothera biennis*) and the small-flowered variety (*Oenothera muricata*). The cross, being exceedingly infertile, led almost to complete sterility, but eventually he secured some 150 flowering specimens, and after describing the special characters of the resulting hybrids goes on to state: "The most interesting point, however is the likeness between the first generation, which obviously must combine in its internal structure the units of both parents, and the second and later generations, which are only of a derivative nature. Next to this stands the fact that in each generation all individuals are alike. No reversion to the parental forms either in the whole type or in the single characteristics has ever been observed, though the leaves of some hundreds and the spikes and flowers of some 150 individual plants have been carefully examined. No segregation or splitting up takes place (1). This phenomenon, which de Vries terms "unisexual union" is regarded by Bateson as of problematical significance (5). A similar *constant hybrid* is that of the hybrid lucerne (*Medicago media*)—a cross betwixt the common purple lucerne and the yellow-flowered and procumbent *Medicago falcata*; this also *always comes true*. Other instances cited by de Vries, as the hybrid between *Anemone magellanica* and the common *A. sylvestris* examined by Janczewski, were notably sterile and the pollen was all bad—facts which naturally induce Prof. Bateson to hesitate in accepting as evidence of the failure of segregation as a *normal event*.

Struggle between Gametes (Selection Mating.)

Another possible source of fallacy may occur during segregation; several authorities have suggested that a sort of struggle

betwixt the sexual gametes may occur, *i.e.*, a selective mating of male and female gametes due to some mutual affinity between special germ-cells (Correns, Cuenot, Mudge) as explanatory of departure from the usual Mendelian ratios. Now Mendelian results occur when the numbers of male and female gametes are so proportioned as to give to each paternal germ an equal chance of mating with any one of the maternal germs, in accordance with the theory of probability. If selective mating occur we have a complete departure from this law, some disturbing factor of the nature of a special germ-affinity being appealed to. As yet such an explanation is hypothetical, but must not be lost sight of where the numerical ratio is disturbed. Such a probability is put very clearly by Prof. Mudge: "But there is another reason why it does not necessarily follow that the zygotic (person) results are a true index of the gametic ones. An individual may carry two kinds of sex-cells, and it does not at all follow that they will be both fertilised in the same ratio. There may be such a thing as gametic selection in regard to fertilisation" (13). He also instances the fact that naturally *only one* live earthworm emerges from a cocoon of some twenty or twenty-four eggs; and again refers to the megasporangium of *Selaginella* where a similar struggle seems implied: "What the Mendelian does is to predict that all the types shall be represented in the gametes which are formed, but he cannot ignore the fact that when these gametes are so formed and fertilised there exists in some cases a struggle for existence which may result in the extinction of certain types of zygotes. The prediction, therefore, whilst true of the gametes, might be falsified by the zygotes. That there is a selection of gametic and zygotic types going on is perfectly true" (13).

Unit Characters.

The conception of pairs of unit characters or allelomorphs, such as tallness and dwarfness, roundness and angularity, etc., embraces especially the idea of elemental simplicity; all taxonomic characteristics of a plant or animal *must never be compounded*, but be reduced to their simplest elemental constitution e'er they can be properly considered as unit characters. The allelomorph, as the biological unit, might be regarded as the

parallel to the former physical conception of the atom, but there are indications that the belief in the rigid immutability of the biological factor—the unit character—is being displaced by a more fluent interpretation. “It will be of great interest to determine,” says Bateson, “how far the purity of the germ-cells in respect of allelomorphic characters is an absolute rule, or whether there are exceptional cases in which such purity may be impaired. That such exceptions may arise is indeed almost certain from the evidence of ‘mosaic’ fruits in *Datura*, where it was shown that the otherwise pure extracted recessives (thornless fruit) showed exceptionally a thorny patch or segment. Unless this is an original sport on the part of the individual, such a phenomenon may be taken as indicating that the germ-cells may also have been mosaic. . . . We incline to the view that even though the figures point to a sharp discontinuity between dominant and recessive elements, we shall ultimately recognise that the discontinuity between these elements *need not be universally absolute*.” Professor Bateson also indicates that Mendel never asserted a universal rule as to the purity of the gametes, but that his results were explicable on the hypothesis of such purity (14).

Coupling.

Hitherto we have considered the several pairs of allelomorphs as normally segregating in the gametes entirely independent of each other, yet with the maintenance of the Mendelian ratios. There are, however, exceptional cases of a most striking and suggestive character, where such independence of allelomorphic pairs is interfered with by an *apparent affinity* between the separate units, which are consequently tied together during segregation, and hence modify the zygotic ratios. For instance, there are certain varieties of pea in which coloured flowers invariably are found associated with red or purple leaf-axils and coloured seed-coats. When such are crossed with plants having white flowers, green axils, and non-pigmented seed-coat, these apparently distinct character groups are found to act as a single pair of allelomorphs. This is what is known as “coupling.” Another example is to be noted in the pollen forms of the sweet pea (*Lathyrus odoratus*). Two forms with white flowers, which differ only in the one

bearing *long* and the other *round* pollen, are crossed, and the hybrids of F_1 are of purple colour and with *long* pollen, which is therefore dominant. In F_2 the plants produced are—27 purples, 9 reds, 28 whites.

Now, when the pollen of the *whole family* is examined, the long-pollened plants are to the round-pollened plants as 3 to 1. The same ratio applied to the white-flowered plants. In the purple and red-flowered plants it is wholly different, for in the purple there is "a *great excess of longs*, which are to rounds as 12 to 1, whilst amongst the reds there is an excess of rounds, which are to the longs as about 3·2 to 1" (5).

In certain cases, however, of the sweet pea, the correlation between coloured axils and flowers breaks down, and the characters segregate independently—a *light axil* being associated with coloured flowers. In cases where the pollen is sterile and the flowers coloured, the axils are almost invariably light or green coloured, the dark-axilled plants almost always fertile (5).

Lock gives us another instance where characters apparently bearing no relationship to each other, such as early or late flowering and the colour of the flowers, are evidently coupled. This occurred in two strains of pea, of white and of purple flowers respectively, in which early opening was notably associated with the white and late opening with the purple colour of the flowers (15).

How readily genuine Mendelian results may be misconstrued is seen by a glance at the next scheme. Here we have sixteen individuals of the F_2 generation, resulting from the interbreeding of the hybrids of a cross between a wild grey and a pure albino rabbit. The results you perceive differ somewhat from those of the former scheme—the latter group now consists of four apparent albinos: in lieu of the formula 9 3 3 1 we have 9 3 4, consisting of nine greys, three blacks, and four albino rabbits. When we analyse the results it is discovered that the constitution of the four albinos is really dissimilar, being superficially identical in appearance, and all producing albinos when interbred. The only pure recessive albino is the one in the lower right-hand corner, and the three others are differently constituted.

We are really dealing with two pairs of allelomorphs:

Colour-factor (C) dominant to . absence of colour (c)

Grey determiner (G) dominant to black determiner (B)

Now since neither determiner can express itself except in the presence of the colour-factor (C), in a zygote devoid of this colour factor (c) either or both determiners may be present, yet the zygote be an albino. Given the colour-factor (C), however, the determiners at once become effective, and thus CCGG would result in a grey rabbit, CCBB in a black rabbit, whilst CCGGBB would result in a grey because the grey factor (G) is dominant over the black (B).

SCHEME 3.

RABBITS
GREY × ALBINO

	CGB	CgB	cGB	cgB
CGB	$\begin{matrix} G \\ CGB \\ CGB \end{matrix}$	$\begin{matrix} G \\ CgB \\ CGB \end{matrix}$	$\begin{matrix} G \\ cGB \\ CGB \end{matrix}$	$\begin{matrix} G \\ cgB \\ CGB \end{matrix}$
CgB	$\begin{matrix} G \\ CGB \\ CgB \end{matrix}$	$\begin{matrix} B \\ CgB \\ CgB \end{matrix}$	$\begin{matrix} G \\ cGB \\ CgB \end{matrix}$	$\begin{matrix} B \\ cgB \\ CgB \end{matrix}$
cGB	$\begin{matrix} G \\ CGB \\ cGB \end{matrix}$	$\begin{matrix} G \\ CgB \\ cGB \end{matrix}$	$\begin{matrix} A \\ cGB \\ cGB \end{matrix}$	$\begin{matrix} A \\ cgB \\ cGB \end{matrix}$
cgB	$\begin{matrix} G \\ CGB \\ cgB \end{matrix}$	$\begin{matrix} B \\ CgB \\ cgB \end{matrix}$	$\begin{matrix} A \\ cGB \\ cgB \end{matrix}$	$\begin{matrix} A \\ cgB \\ cgB \end{matrix}$

But here you observe we unnecessarily complicate the formula. We speak of two antithetic units as separately existing. As Professor Bateson says, it is simpler to regard the black determiner as present in *both parents* and the grey determiner as dominant to the *absence of grey* (g), in accordance with the *presence and absence* hypothesis. The cross would then be represented thus :

Grey parent CGB × cgB albino parent

CCGgBB constitution of resulting zygote.

The possible combinations of these when interbred would give the following types : CGB, cGB, GcB, cgB.

A glance at the separate individuals on the chart shows us that the colour-factor (C) is present in all, *except the four uncoloured zygotes*. Now, since a determiner can only assert itself when the colour-factor (C) is present, and these four albinos are homozygous for the *no pigment* factor (cc), it follows that on crossing 1, 2, or 3 with any of the individuals containing the factor C the resulting individuals will be coloured. Thus on crossing No. 1, which holds the factor for grey, with a black rabbit, the former prevails and the progeny are all grey ; again, on crossing Nos. 2 and 3, which have the heterozygous constitution ccGb and ccbG respectively, the result is an equal number of grey and black rabbits. These three first albinos, therefore, are only albinos by virtue of the fact that their determiners, in the absence of the colour-factor (C), cannot assert themselves. As already seen, the only individuals homozygous for *both* characters lie along the left to right diagonal line.⁽⁸⁾

The Case of Mice.

To indicate how near an approximate to the expected Mendelian ratio may be predicted I cannot do better than refer to the studies of Miss Durham. The assumed zygotic constitution of grey, black, and chocolate-coloured mice is as follows :

Grey CGBCh, black CgBCh, chocolate CgbCh : where C stands for colour-factor, Gg for grey determiner or its absence, Bb for black determiner or its absence, Ch for chocolate.

The chocolate mouse is one, as you see, deprived of its grey and black determiner, the black mouse of its grey determiner, whilst the grey mouse retains its grey, black, and chocolate determiners.

Now when we cross a grey with a chocolate mouse we get in the F₁ zygotes the following constitution :

Grey parent CGBCh × CgbCh chocolate parent

|
CC, Gg, Bb, Ch.

These when interbred would give us the four possible combinations : CGBCh, CgBCh, CGBCh, CgbCh.

When these are squared, as was done in the case of the rabbits, we get for our expected ratio twelve greys, three blacks, one chocolate—a result clearly indicated by Miss Durham's studies in the case of mice (5).

Grey parent CGBCh × CgbCh chocolate parent

|
CC, Gg, Bb, Ch.
(hybrids of F₁)

The four possible combinations of these factors are—CGBCh, CgBCh, CGbCh, CgbCh.

When interbred the following constitute the members of F₂:

SCHEME 4.

Grey. CGBCh CGBCh	Grey. CgBCh CGBCh	Grey. CGbCh CGBCh	Grey. CgbCh CGBCh
Grey. CGBCh CgBCh	Black. CgBCh CgBCh	Grey. CGbCh CgBCh	Black. CgbCh CgBCh
Grey. CGBCh CGbCh	Grey. CgBCh CGbCh	Grey. CGbCh CGbCh	Grey. CgbCh CGbCh
Grey. CGBCh CgbCh	Black. CgBCh CgbCh	Grey. CGbCh CgbCh	Chocolate. CgbCh CgbCh

Hence 12 greys, 3 blacks and 1 chocolate result from this interbreeding.

This graphic method of representation of the zygotic constitution in the several members of the family F₂ is by no means such a complex matter as may at first appear. We have simply to place along the top and left-hand sides of our large square the several possible combinations resulting from the interchange of the unit characters, carry the top series vertically downwards through each respective square, carry the lateral series in like manner horizontally into each parallel square immediately beneath the top series. You have thus revealed in each square the zygotic constitution for each of the *sixteen* individuals embraced, and can readily read off the peculiar characteristic of all members of this family.

I would tax your patience a little longer, if I may, by illustrating the extremely interesting case of the cross between two white sweet peas known as Emily Henderson, which differ only in one possessing long and the other round pollen, and each of which, when self-pollinated, breed true. As we have already indicated the hybrids of this cross of two *pure white* flowering plants are *all purple*, known to florists as Purple Invincible, and are to be regarded as reversionary.⁽⁴⁾ The Mendelian gives the following explanation: In F_2 we obtain purples, reds and whites of varying constitution, including the types of Purple Invincible, Picotee, Painted Lady, Tinged White and Miss Hunt. Colour results only when two complementary factors, C and R, meet—when the flowers are *red*; if the factor B, whose function is to convert the red into purple, be present, the flowers are *all purple*; but if C is absent, neither of the factors R or B, separately or together, are effective and the flowers are *white*.

To indicate the somewhat complicated nature of the several possible plants of this family a scheme of sixty-four squares would be necessary, which will accurately show the zygotic constitution of the several members. The three factors C, R and B will afford us *eight* possible combinations, *viz.*, CRB, CRb, CrB, Crb, cRB, cRb, crB, crb, and these, when arranged in a square, as already indicated, will give us, of course, sixty-four smaller squares or zygotes. Either of the two original white parents, if self-fertilised, would breed true, producing white flowers only, and when both are *crossed* and a purple Invincible results we have an instance of reversion by the *addition* of one or more factors present in the original or ancestral type. In like manner such cases of reversion may also be due to the *omission* of a factor. Thus, as Prof. Bateson states, the *cause* of a variation must be attributed to the addition or omission of a factor, however this may be brought about (5).

Miss Wheldale, in her examination of the colour factors in the snapdragon (*Antirrhinum*), crossed the pale yellow or “ivory” variety with a white variety, and all the F_1 hybrids were dull-red like the common snapdragon. In the “ivory” flowers she found a glucoside which was not present in the white, and concludes that the white introduces a factor, probably an oxidase, which transforms the glucoside into red anthocyan (16).

Again, two albino varieties of stock—a white and a cream—for neither contained *sap-colour*, were crossed by Miss Saunders, and all the F_1 gave *purple* flowers. Here also we are concerned, as with the sweet pea, with three factors—C, R, B. The *white* parent has the C factor; the *cream* parent has the complementary R factor, which together would form red; but the white parent also has the B factor, and the cross therefore results in CRB or *purple*. That this is the case is readily

SCHEME 5.

P	P	P	P	P	P	P	P	P	P
CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB
CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB
P	R	P	R	P	R	P	R	P	R
CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB
CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB
P	P	W	W	P	P	W	W	P	W
CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB
CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB
P	R	W	W	P	R	W	W	P	W
CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB
CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB
P	P	W	W	P	P	W	W	P	W
CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB
CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB
P	R	W	W	P	R	W	W	P	W
CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB
CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB	CRB

proved by crossing the cream with a red parent, when only *red* flowers result, but on crossing the white with a red we get purple hybrids, indicating that the factor B is clearly brought in by the cream parent.

Dominance.

If we fertilise a *coloured* variety of sweet-pea having a tall stem with pollen from a *white* variety of dwarf habit, its pods will contain seeds which on being sown produce hybrids indistinguishable from the coloured plant—all will be tall with coloured flowers. If we proceed further and interbreed these hybrids the result in F_2 will bear the proportion of three

coloured talls to one white dwarf. But we know that of the three coloured talls one only will be pure to the parent form; the two others are impure or heterozygotes—yet these heterozygotes are indistinguishable from the pure homozygous types until examined by further breeding.

Similarly, if we cross, as Miss Saunders has shown, hoary and glabrous forms of stock (where discontinuity is complete—the glabrous forms being perfectly free from hairs) the hybrid heterozygotes will be *hoary and absolutely indistinguishable* from the homozygous dominant form (14).

Now this is what is meant by complete dominance—for the characters under consideration one parent completely overshadows or dominates the other parental type. Rarely does such *great intensity* of dominance prevail. De Vries tested the dominance of the black-berried nightshade over its yellow-berried variety (*Solanum nigrum chlorocarpum*) as far as the eighth generation, and still found it to prevail and in the Mendelian proportions of 25 *per cent.*, 50 *per cent.*, 25 *per cent.*⁽⁵⁾ Yet dominance may be greatly restricted, suppressed or wholly absent: "Dominance as contrasted with recessiveness is a matter of degree and not of kind" (17). As Bateson states—"The intensity of a dominant character may be more or less diminished either in particular individuals or in particular parts of one individual" (14). This is well exemplified in the plumage of hybrid fowl. In the imperfect dominance of the plain head in fowls crossed with the Polish breed with its notable cerebral hernia we see this fact exemplified, and note how the interaction of a recessive feature (cerebral hernia) in the zygote affects the dominant unit. All of us know the case of the blue Andalusian fowl which illustrates the same fact, but where dominance appeared completely absent.

Because a particular unit character is dominant in certain forms we must not presume that it will be dominant for all other species; thus, whilst pigment in flowers and in mammals prevails over white, the reverse obtains in poultry, the colour-factor being recessive to white in the plumage, *i.e.*, a negative variation prevails over the positive variation of pigment (16)⁽⁶⁾. In poultry long tail and crest feathers are dominant, but in mammals long hair is recessive (17). The case of the Chinese primrose (*Primula sinensis*) crossed with *Primula stellata* is an admirable illustration of this fact of a failure

in dominance—the resulting hybrid is intermediate between either parent, but quite unlike the type of each, so that, as Lock points out, the heterozygous nature is patent from the first, and no longer masked by dominance (15). On the other hand, in the common wild primrose, which we all know assumes the two forms—the *thrum-eyed* or short styled with large pollen-grains, and the *pin-eyed* or long styled with small pollen-grains—it has been shown that the thrum-eyed are dominant to the pin-eyed form, whilst the pin-eyed is a *pure recessive*, always breeding true *inter se*, and never producing thrums unless crossed with the latter (5).

De Vries attempted, though unsuccessfully, to explain the nature of dominance or what he called prepotency. He asserts that in varietal hybrids *i.e.*, crosses between parent species and their derivative varieties, the parental species *as the result of ancestral potency* asserts its dominance for *colour, form, hairiness*, etc., in a large proportion of individuals. According to de Vries the recessive character is peculiarly the feature of the *derivative* or *recent* variety. Thus if we cross the coloured species of snapdragon, long-spurred violet, sea-shore aster, corn-rose, sweet William, red clover, gloxinia, *Veronica longifolia* and *Clarksia pulchella* with their respective *white* varieties, the dominance of colour always shows itself in the hybrid, or, as de Vries would state the fact, prepotence of the ancestral character declares itself (1).

Now this is a very fascinating theory, but unfortunately is refuted by very numerous exceptions. For poultry it is distinctly not the case (17). The dominance of pea and rose combs in poultry over the older phylogenetic character of single comb which prevailed in the ancestral jungle fowl refutes this view of the case; so does the hornless or polled condition of cattle—certainly a *more recent* character—over the horned ancestral feature (17). In man, again, polydactylism is a further instance where the more recent and aberrant character is dominant over the normal and ancestral. Professor Bateson distinctly asserts that “the novelty or antiquity of the characteristic has nothing to do with its dominance” (17).

We should clearly distinguish *prepotency* in Darwin's sense from Mendelian *dominance*. The latter term connotes the predominance of one or more characters resolved into their

simplest elemental form—unit characters in fact: prepotence, on the other hand, refers to more general characteristics, such as stature, general conformation, mental or physical constitution embracing many complex factors, and only to be satisfactorily analysed by Mendelian methods of research. All readers of Darwin's works will recall the famous bull Favourite prepotent over all short-horned cattle, as these latter were over other breeds; the equally notable black greyhound Bedlamite, whose pups from any coloured bitch were always black; the prepotence of the Niata cattle over ordinary breeds, especially in the female line; the prepotence of the jackal over the dog, and of the male ass over the mare as shown in the mule, or of the stallion over the female ass as shown in the hinny. These, together with all the wealth of illustrations of prepotence given by Darwin, still await treatment at the hands of the biologist for that systematic examination whereby the complex features embraced may be resolved into their simplest terms, and the segregation of their factors shown to be regulated in accordance with Mendelian principles.

From what has been stated it is evident that dominance, although so prevalent a factor in inheritance, is by no means an *essential* part of the Mendelian law.

Purity—Gametic and Zygotic.

Another source of confusion results from the misapplication of the phrase "purity of type" with reference to Mendelian phenomena. I do not here refer to the older conception of purity as contrasted with the wholly different view of purity which Mendelian results afford us. In accordance with the old and long-established belief, purity of type was supposed to be secured only after long-continued and most careful selection; but Mendel showed that absolute purity of type may be acquired directly from the impure heterozygote—the second generation F_2 reproducing the pure parental forms, fixed once and for good. What I refer to is the confusion of purity of the zygote with purity of the gamete. Over and over again the reappearance of parental types in a modified degree of purity has been appealed to as indicating a failure in Mendelian results. Numerous examples might be referred to, especially in cross-bred poultry (17), but it should be recognised, once and for all,

that it is universally admitted that *zygotes* may show any degree of purity. What is important is the recognition of *purity in the gametes*, *i.e.*, complete segregation of parental characters, so that no single gamete can possibly contain both alternative or contrasting units. Segregation results, in fact, in *complete discontinuity*. But it is otherwise with the zygote, for here two sexual gametes unite in the same individual, and their unit characters may be identical for each parent, when a pure homozygote results; or the alternative units may be present and remain distinct, as in the heterozygote form, or—and this is the point—the recessive unit may react upon the dominant, a struggle for existence of either may ensue, and so *every degree of blending* of parental characters ensue. We have already seen how parthenogenetic development also affects the question of gametic segregation.

Application of Mendelian Formulæ to Disease.

If a pure dominant, DD, and a pure recessive, RR, are crossed the typical Mendelian result, as we have seen, are dominant recessive, DD(RR), the latter in brackets to indicate the non-appearance or latency of the recessive feature in the first generation F_1 .

In the next place, when these impure dominants, DD(RR), are interbred the recessive feature reappears in the second generation F_2 in the proportion of 25 per cent. of the total progeny. In other words, the characteristic of a *recessive* feature is its apparent *indirectness* of transmission—it leaps as it were over a generation, and its origin has to be sought not in its parentage but in its *grandparentage*. In the third place, when the pure recessives are fertilised with pure recessives, *all* the progeny will be recessive likewise; but if they be crossed with dominants, DD(RR), one half will be dominant recessive, the other half pure recessives.

Now to apply these facts to disease: If the disease be of a *recessive nature*, the recessive subject crossed with a *dominant* or *normal* subject will have dominant or normal offspring only in F_1 ; but if these are interbred or bred with similar dominants, the recessive form, *i.e.*, the disease, reappears in the second generation F_2 ; in other words, the recessive or diseased offspring are born of normal or healthy parents; the transmission is *indirect*.

Again, *all* the offspring of recessive (diseased) parents will also be recessive or diseased; and since any rare recessive disease is more likely to meet its like in the *same stock* which betrays the failing than outside this stock, so *consanguineous* alliances, such as those of first cousins, are likely to show recessive features.

Lastly, if the affected subject RR is crossed with the normal subject D(R), half the progeny will be *unaffected*, the other half *affected*.

Now let us turn to the dominant factors. The cross between dominant and recessive results in dominants D(R) in the first generation—the transmission of the dominant feature is *direct* from parent to child, and such dominants interbred result in the second generation F_2 in 75 *per cent.* dominant recessives D(R) and 25 *per cent.* recessives. In the second place, when pure dominants are bred with pure dominants all the offspring are dominants. In the third place, when the dominants are crossed with dominant recessives half the progeny will be dominants and half dominant recessives. So if a certain disease be transmitted as a dominant character, as is so frequently the case with disease in man, the disease is directly transmitted from parent to offspring.

Again, in the second generation F_2 the diseased offspring, if they mate with normal or healthy (*i.e.*, recessive) persons — D(R) \times RR—should have half their offspring affected and half unaffected (brachydactylia, night-blindness, colour-blindness, etc.).

A very important element occurs here which must always be taken into consideration, as certain to disturb more or less the calculated Mendelian ratios. There are some diseases which may be dominant in the *male sex* but recessive in the female, or *vice versa*; just as horns may be dominant in the ram but recessive in the ewe—a sort of coupling of dominant and recessive features with sex characteristics. If, therefore, a disease be dominant to the male and recessive to the female sex, yet few or no male offspring are born, our ratios are of course disturbed, all being dependent upon a sufficient number of viable offspring of either sex being produced to allow of the ratio being established. In the human subject, of course, where the offspring are so few, or where abortive ova, miscarriage, birth of non-viable offspring, and other disturbing factors are so

prevalent, we must anticipate the greatest difficulty at times in establishing the full Mendelian expectations in the ratios obtained.

How far these facts throw light upon the question of the inheritance of disease has been made the subject of inquiry only in quite recent years. If the illumination of these obscure realms of pathology has hitherto been dim and uncertain, we should recall the inherent difficulties of the subject—the paucity of the workers specially equipped for such a systematic inquiry—and the recent date of any serious investigations into the facts bearing upon Mendelian inheritance.

Rust in Wheat.

One of the best ascertained and instructive illustrations of Mendelian inheritance in disease is that afforded by the so-called yellow rust disease in wheat studied by Professor Biffin at the Agricultural Department of Cambridge University, and which is responsible, we are told, for the loss of millions of pounds per annum in many countries (15). Certain strains of wheat, such as that known as “Michigan bronze,” are peculiarly susceptible to the attacks of the fungus *Puccinia glumarum* whilst others are equally immune. The unit character, *susceptibility* to rust, is here found to be *dominant* to the *recessive* character of non-rust or immunity, for when these two strains are crossed the hybrids are all rusty.

Upon interbreeding these hybrids, however, the recessive immune forms reappear, together with the rusty dominant forms in the Mendelian proportion of 1 to 3; the actual numbers obtained by Mr. Biffin were 1609 diseased and 523 immune (15). The immune, if interbred, throw off immune and rusty forms always in the proportion of 1 to 3. Here we have, then, undoubted Mendelian segregation in disease, the phenomenon of dominance, the re-appearance of both parental types, and transmission according to the usual Mendelian formula. Immunity is here, we perceive, but a question of breeding.

Miss Marriat shows that the rust-hyphæ receive a check upon entering the stomata of the resistant plants (5); and it has been most plausibly suggested that such check is due to an antitoxin in the resistant plants, whilst a factor in the dominant susceptible forms excludes the formation of this antitoxin (5).

Diseased Pollen.

Cases occur where the anthers of a plant are, at a very early stage of their development, shrivelled, brown, and diseased—holding more or less *bad pollen*, although the female organs are perfectly healthy, and the plant is sterile to its own pollen. This is frequent amongst the Caryophyllaceæ, Liliaceæ, and Ericaceæ, and was described by Gärtner under the term of “contabescence” (18). In the case of the passion flower, tobacco plant, and in *Dianthus japonica* the reverse occasionally prevails—the female organs being sterile, the anthers and pollen healthy. In some cases, such as *Silene*, Gärtner thought he detected in this peculiarity a tendency on the part of the plant to become *dioecious*. To us the interest of the case is that we have here a diseased state leading towards sterility, the tendency to diseased pollen being possibly a recessive character, which when further examined would be found subject to Mendelian principles. Now this has been done for the sweet-pea (*Lathyrus odoratus*) by Bateson and others, where sterile anthers were largely found. When these sterile pollen grains are minutely examined, as has been accomplished by Mr. Gregory (19), it is found that prior to the reduction-division the divisions are perfectly normal, but at the reduction stage *the chromosomes are in shapeless knots and entanglements, failing to divide*. The cross betwixt two varieties of sweet-pea (Emily Henderson × Lady Penzance) was carefully examined, and out of a total of 227 plants of F₂, 173 were fertile and 54 were sterile, or 3·25 fertile to 1 sterile; hence this ratio fully justifies the assumption that the pollen sterility is a *recessive* unit character transmitted in *Mendelian fashion* (20).

Cerebral Hernia.

Let us now take the case of certain Polish fowl in which a notable crest of large feathers covers over a remarkable defect in the skull, giving rise to a protrusion or hernia of the brain. This defect is found to be a *recessive* feature to the normal or plain head. Consequently, when Davenport crossed the plain-headed, single-combed Black Minorca with the white-crested black Polish fowl having the notable cerebral hernia, all the first generation hybrids had plain heads. In the second gene-

ration of these hybrids interbred the cerebral hernia re-appeared, associated with the dominant plain head, very nearly in the expected Mendelian ratio of three dominants to one recessive. Dominance, however, was *imperfect*, since "the plain headed have the frontal eminence abnormally high" (17).

Japanese Waltzing Mice.

The well-known fancy breed of mice called "Japanese waltzers" owe their rapid vertiginous movements of spinning round and round to a defect in the labyrinthine canals of the ear. Extensive breeding between these Japanese waltzers and albino mice was tried by Darbyshire (24), and from the results two important conclusions were reached :

(1) The hybrids of F_1 show *dominance* of the *normal* state ; waltzing was always absent.

(2) The hybrids interbred in F_2 are disposed in two groups (non-waltzers and waltzers), but the waltzers, instead of being one-fourth, were less than one-fifth of the whole number of young, yet, so far as eye and coat-colour were concerned, one-quarter resembled the albino grandparent, one-half their hybrid parents, and one-quarter the waltzing grandparents, so that these were in strict accord with Mendelian expectations.

The great deficiency of waltzers is regarded by Bateson as due to their greater constitutional delicacy, since all attempts at interbreeding were unsuccessful (5).

Of the four examples just given it will be noted that the abnormal condition is *dominant* only in one—that of rusty wheat ; that all the others—sterility in plants, cerebral hernia in fowl, and the waltzing habit in mice—are recessive characters in the Mendelian sense.

Albinism.

Here we have a very remarkable peculiarity in the complete absence of all the pigments of the melanin group throughout the body, only such pigments as are of vital importance to the economy, as the blood-pigment, remaining, together with the biliary pigments and those giving colour to muscle. The deficiency of these melanin pigments is probably due to the absence of an intra-cellular enzyme essential to its formation (5). Albinism in animals acts as a recessive character to pigmenta-

tion in the Mendelian sense. As we have already seen, when the wild grey is crossed with an albino rabbit all the offspring are grey. In F_2 , however, the interbreeding of these hybrids results in 3 greys to 1 albino, and in many cases *black* also appears, *i.e.*, greys, blacks, and albinos in the proportion of 9 : 3 : 4. In mice also Mendelian inheritance has been observed. Thus grey hybrids always result from the cross between a grey mouse and an albino, whilst in the next generation greys and albinos appear in nearly the expected proportion of 3 to 1. The case of albinism in man is a greatly debated question, and the recent discussion on this point at the Royal Society of Medicine indicates what extreme caution is required in hastily assuming that genuine albinism fails to meet the requirements of Mendelian demands. Let us for a moment consider the difficulties of the question and the possible fallacies introduced thereby :

(1) The definition of albinism must be strictly limited to cases which show *no apparent pigment* ; all intermediate cases of lessened pigment must be ruled out of court. It is only by actually testing the purity of the albino by interbreeding that we can assure ourselves of its purity in this particular (*see* Scheme 3).

(2) The defect, especially in our own country, is peculiarly rare in man, and the chances of intermarriage between two pure albinos consequently most remote.

(3) When albinos cross with normally pigmented individuals the reappearance of albinism can only occur in the second generation, and the numerous fallacies introduced which are so likely to prevail in human breeding render a disturbance in the Mendelian ratio highly probable.

The definition of what constitutes albinism is of vital importance to the argument in all breeding experiments—"the presence of visible pigment, be it ever so light in nature or small in amount, constitutes the individual a pigmented person" (13).

Again, all *intermediate grades* of pigmentation, though they may approach the true albino in appearance, are but groups of lightly *pigmented* individuals, and when these are mated to the darker class the problem is, as Mudge has so ably shown, not one of albinism at all but the question of a cross between a dark and lighter pigmented individual—whether these lighter pigmented forms can be extracted and breed true. If they breed

true we may assure ourselves that they represent mutations of finer swing, identical to the intermediates of Johannsen's "pure lines," each breeding true to its own mean. We have already referred to the white plumage of certain fowl proving dominant to colour, as an apparent exception to the rule of the *recessive-ness* of albinism, or as contrary to the usual dominance of colour to whiteness in plants and animals. Experimenting with three strains of white plumage fowls, Miss Saunders says: "In the fowls, of course, we are not dealing with albinos at all. The birds all have pigmented eyes, and in the case of the Silky the buff in the down is already an indication of the presence of some pigment" (*Rep. Evol. Com.*, No. 4, p. 29).

Bateson, moreover, reminds us that this pigmentation of the eyes sharply distinguishes them from true albinos, and that "pigs, cats, mice, cattle, dogs, and fowls exist in which the skin, hairs and feathers are white, or nearly so, though the eye is pigmented"(5). The essential feature in all albinos alike is the *absence of the chromogen*; we must always remember that in other respects they may possess very varied constitutional divergencies. Thus, the albino with the *grey determiner* crossed by a pure black will produce grey only; that with the black determiner black only; whilst the albino with grey and black determiners associated will give equal numbers of grey and black progeny. Bateson affirms that, so far as is at present known, the *total absence* of pigment—that is, genuine albinism—is always a recessive feature in plants and animals (5).

Alkaptonuria.

That very strange condition known as alkaptonuria, in which the urine, shortly after passing, becomes dark or even black from the presence of homogentisic acid or alkapton, is also regarded as a recessive disease in the Mendelian sense. Tyrosine and phenyl-alanine derived from exogenous and endogenous proteids are the *immediate precursors* of alkapton, and in *healthy states* its benzene ring is completely broken down, probably by *an enzyme in the liver*. It is assumed by Dr. Garrod that in congenital cases of alkaptonuria this enzyme is wholly absent, and that in certain diseases, such as diabetes, the enzyme may be partially or completely inhibited, so that the benzene ring is not broken down, and alkapton escapes by

the urine (21). This is the very probable explanation of alkaptonuria given us by Dr. Garrod, but he further shows that this rare affection, so rare that but fifty or sixty cases only have been recorded in Europe and America, occurs in a large proportion of such cases amongst families of first-cousin marriages. This is exactly what we might expect in the case of a very rare disease transmitted as a recessive variation (21).

Sex-Limitations.

Another element which occasionally enters into the disturbances of Mendelian calculations is that of sex-limitations of disease. A whole series of diseases, some extremely rare, some much more common, show this peculiarity of transmission, such as hæmophilia, colour-blindness, night-blindness, polyuria, etc. Thus, Grandidier, out of a total of 200 families subject to hæmophilia, found 609 males to only 48 females victims of this affection (22). So far as this disease is concerned, the morbid factor, whatever be its nature, may be definitely regarded as acting as a *dominant* in the male and as a *recessive* in the female sex; whilst in the latter an inhibitory factor is present, which restrains the *expression* of the dominant disease, whilst permitting of its *transmission* exclusively to the male offspring. Although exceptional cases have been described of women suffering from hæmophilia, Dr. Wickham Legg states that he has never seen a genuine case in woman.

Cunier's remarkable case of night-blindness (hemeralopia), where throughout two centuries six successive generations afforded some 85 affected members, the far larger proportion being females, notably illustrates this sex-limitation. In like manner Prosper Lucas's case of three generations of females, who were subjects of hereditary blindness, illustrates the same point. Again, congenital strabismus may show the same sex-limitation; in Streatfield's case a family of ten children had five sons affected, whilst five daughters were sound; and it has been asserted that out of 200 cases of colour-blindness nine-tenths occurred in male offspring. Another congenital defect—cleft-iris—has been traced along the male line for four generations, whilst all of us must recall the classic case of Lambert the porcupine man, who with his six children was affected, and in whose case four generations presented the

same extraordinary disfigurement, and *invariably in the male sex* (5, 18).

When studying cases of supernumerary digits (polydactylia), such as occur in man, also in the ape, horse, pig, cat, fowl, etc., one is struck by the fact that other associated abnormalities of the body are usually absent, whilst in variation by defect, such as hypodactylia or syndactylism, there is often arrested development of other parts, such as hare-lip, cleft-palate, cyclopia, spina bifida, double uterus, etc. It has also been pointed out that certain animals are peculiarly prone to such meristic deviations, whilst in others they rarely occur. It is a notable fact, moreover, that such variations are far more common in the fore than in the hind limbs, in the manus than in the pes (4). In fact, it may be definitely stated that the *more specialised* member is the one more subject to meristic variability. In view of this it would indeed be strange if the highly specialised structure of the cerebral cortex were not peculiarly prone to the same law. All such meristic deviations are well recognised as especially inheritable in accordance with their innate origin, and that *substantive* variations are for the most part instances of discontinuity; the case of the naked or "rhinoceros" mouse is quoted by Professor Bateson, the shrew-mouse, also occasionally quite devoid of hair, the defective growth of the facial bones in the bull-dog, the pug, the Niata cattle of La Plata, and certain breeds of pigs; also amongst fish the remarkable bull-dog-headed carp and trout, and similar structural variations in the minnow, mullet, salmon and pike (4).

From these considerations we see the great importance for the study of convolutional variabilities, departures from the pattern symmetry of the individual gyri. Idiocy and imbecility constitute one large group where structural deviations are notable, whilst variations, whether in the direction of excess or defect, peculiarly characterise the stigmata of degeneracy, nor can it be doubted that such variations will reveal themselves upon minute examination as underlying the predisposition to many nervous and mental diseases. Whilst meristic deviations, whether plus or minus, are peculiarly prone to transmission and are comparatively simple for study, deviations of a substantive character are a far more complex subject of inquiry, and in many cases, such as that

of colour, may be dependent upon *chemical discontinuity* (4). It has been seen that in many plants, and probably in animals also, colour variation is due to the meeting of two *complementary factors*, one the colour factor or chromogen, the other a ferment such as tyrosinase, and that each factor acts allelomorphically to its own absence. Yet the ferment in itself is not the *thing* transmitted, but what is transmitted is rather the power to produce such a ferment (5). This idea reminds us of Driesch's fascinating theory that the nucleus is a storehouse of ferments which arouse specific changes in the cytoplasm, leading to progressive organisation throughout development. Wilson suggests that could we but prove that the number of ferments diminish in the nucleus during differentiation, a comparatively simple and intelligible explanation would be afforded of nuclear specification and limitation of development (6).

From the biological standpoint a large number of constitutional, including nervous and mental, predispositions to disease are instances of mutation, or, in other words, of discontinuous variation; as mutants they appear suddenly, are persistent in their nature, and betray strong tendencies to transmission. This discontinuous factor is seen in the perverted metabolism of gout and diabetes, in the defective filtering apparatus of the kidney in albuminuria and polyuria, or in the possible endothelial defects of the vascular channels in hæmophilia (5), and again in the functional failure of the liver to produce an appropriate enzyme in alkaptonuria (21).

In nervous diseases, again, the same applies to certain system-diseases of the spinal cord, and the peculiar group of "family affections" of obscure ætiology. Thus the postero-lateral columns of the cord, together with the direct cerebellar tract, are paths of *diminished resistance* to morbid factors in certain neuropathic families. Embryologically defective and unfitted to meet the stress of developmental periods, or in the exigencies of an acute infective process, their premature dissolution is ensured by a congenitally defective vitality. This is the case in hereditary ataxia (Friedreich's disease), where an ataxic paraplegia occurs in pre-adolescent life in several brothers and sisters of the same family, occasionally traced through several generations. The potency of predisposition is here manifestly concentrated upon those nerve-

columns of the cord which are last to complete their myelination at the ninth or tenth month. Again, we have those attacks of sudden and complete motor flaccidity of the limbs prior to puberty, occurring over and over again, with intervals of complete immunity, and which are likewise notably hereditary and attack several members of the same family, suggestive of evolutionary defects in the motor apparatus, and occasionally transmitted through as many as five generations. Surely in these periodic paralyses we see in the congenitally lessened resistance an instance of *genuine mutation*, and in the suddenness, frequent recurrence and paroxysmal nature of the ailment, a *toxic* agency acting upon these strands. Contrasted with these transient paralyses are the very rare instances of paroxysmal spasm of the voluntary muscles known as "myotonia congenita" or Thomsen's disease, where attacks of transient rigidity of the muscles of the limbs occur after rest upon initiating movement, often lasting through a lifetime. In Huntingdon's disease, or hereditary ataxia of familial type, we see another instance of inherited predisposition transmitted for several generations and affecting numerous members of the same family. Here, instead of appearing early on in childhood, as is the case with myotonia congenita, the remarkable gesticulatory contortions and gross and disorderly quasi-choreic movements do not ensue until adult life, steadily progressing to a fatal issue through profound mental enfeeblement and depression.

When we come to heritage in mental disease the inherent difficulties of the theme are only too notably manifest. It is obvious that it is not the insanity which is transmitted, but the psychopathic basis out of which the insanity is evolved; similarly for epilepsy it is not the epilepsy which is inherited, but the psychopathic constitution which the epileptic subject hands down to his offspring. And in like manner is it so for inebriety, chorea, hysteria and similar neuroses. But here we observe we are dealing, not with any simple factor to which Mendelian principles can be readily applied, but rather with an enormously complex aggregate of factors which still awaits our patient analysis. The psychopathic constitution, far from being one and indivisible, is not necessarily identical for any two individuals, nor for any two forms of mental disturbance. The psychopathic constitution of the epileptic is not that of the alcoholic, nor either that of the hysteric subject or of

ordinary insanity. During the whole of the individual life somatic potentialities of germinal or gametic origin are being brought forward in serial succession at the several stages of ontogeny. All have to face environmental conditions, and their full *expression* will wholly depend upon their adaptability to those external agencies which Galton speaks of as normal *nurture*. Those primeval structural peculiarities—the general architecture or framework of the body, expressed in the earliest stage of embryonic development—will prove more stable and less modifiable to external agencies, and will meet the struggle with far greater chance of maintaining the *status quo*, displaying less variability from the normal. Those structures whose full development is protracted far on into the individual's life, such as the brain and nervous system generally, have their organismal framework laid less deep, are, so to speak, less crystallisable, less stereotyped and more labile, and hence more variable.

In conformity with universal experience we should therefore say that structures destined for more elaborate differentiation, will prove more variable from the normal, and such is peculiarly the case with the substratum of our mental constitution. It is these variations we have to study, and, in so far as practicable, analyse into their elementary constituents, distinguishing the *discontinuous* from the minor rhythms of variability—the so-called modifications—wholly due to environmental agencies and not taking their origin in specific germinal attributes. It is the variation of *mutational value*, in other words, that demands our concentrated attention—the psychopathic constitution of the epileptic, of the insane, of the alcoholic subject, of the hysteric, of the choreic and neurasthenic; the variations which declare themselves in defective neuronal constitution, in the paths of congenitally diminished resistance, as in the spinal tracts of subjects of hereditary disease, in those tracts of diminished resistance of the neuropath where the multitudinous phenomena of convulsive tic (not dependent upon imitation) betray themselves in generation after generation. Data obtained from the minute analysis of their compounded factors in carefully studied pedigrees, and their accordance with Mendelian principles, will prove of enormous importance in our studies of the heritage of disease. The inherent difficulties of the subject are too obvious to require further emphasis, but all the more

for this reason demand our undivided and united efforts to circumscribe. For a time those of us who are especially equipped for biological inquiry might suspend our statistical inquiries, and recognise the undoubted dictum that there is but one method which will give us a scientific conception of heredity, whether we are dealing with normal or pathological genetics, and that is the *physiological* or *biological* method. Darbyshire has well shown the true rôle of the biometrician in his application of Galton's law of ancestral inheritance, as being purely *statistical, descriptive*, and applicable to *masses* only and not to *individuals*; but when he proceeds to state that Galton's law "does not pretend to *account* for anything, but is a generalisation about the relations between the aggregates of adults of successive generations," he surely departs from accuracy? This is sufficiently indicated in the extract from Galton's own statement of the law as given by Bateson in his late remarkable work on *Mendel's Principles* (5).

When, however, we are dealing with Mendelian methods we are concerned with the *individual* and not the *mass*; we are applying *experimental* measures, and are concerned with the phenomena of individual gametogenesis (5). Mendel's law is essentially physiological and explanatory, and towards such as challenge the validity of Mendel's methods and would substitute statistical inquiry in their place as the only true method for unravelling the mysteries of heredity there can be no compromise.

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(¹) The address was freely illustrated by lantern slides. (²) Italics not in the original.—(³) On the other hand, we must remember that the suggestion that these albinos demonstrate a failure in the *purity* of the germ-cell is altogether wrong; certain factors essential to the production of black or grey are present, but in no sense are blackness or greyiness latent in the albino. The albino will, in most cases, be simply bearing the determiner proper to the colour of the last coloured parent from which it was extracted. (Bateson, p. 146.)—(⁴) A purple standard with pink wings, probably the ancestral type of all our sweet-peas.—(⁵) Or by de Vries' interpretation: $\frac{1}{2}$ specific, $\frac{1}{2}$ hybrid, $\frac{1}{2}$ varietal character.—(⁶) Cases occur where a yellow or cream-coloured flower is *recessive* to the white, the colour being due to coloured chromoplasts and *not* to sap-colour. When colourless chromoplasts in plants are dominant to yellow chromoplasts the rule that yellow sap-colour dominates white is not invalidated, since the yellow of chromoplasts is not *pigment* in the strict sense of the term (5).

The Experimental Production of General Paralysis. By
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Asylums.⁽¹⁾

SIX years ago Dr. Shennan⁽²⁾ and I recorded the observations that rats which had been fed with cultures of a threading diphtheroid bacillus, isolated from the bronchus of a general paralytic, developed symptoms of paresis, which tended to go on to a fatal termination, and that the tissues of the animals showed changes resembling those that are found in cases of early general paralysis. In all of four animals in which the experiment was fully carried out the brain showed periarteritis, neuroglia proliferation and severe nerve-cell lesions. Two years ago Dr. McRae⁽³⁾ and I recorded some further experimental observations upon the effects of feeding rats with various strains of diphtheroid bacilli. A diphtheroid bacillus, which formed acid in glucose and saccharose test broths, and which was virulent to mice (*Bacillus paralyticans brevis*), produced very striking results in twelve animals. They developed acute or chronic forms of general paresis which went on to a fatal termination. The most marked lesions found after death were those affecting the nerve-cells of the spinal cord and brain, but in several of the animals there were also distinct periarteritis and neuroglia hypertrophy. Similar experiments with several other strains of diphtheroid bacilli, which could be classed as one or other of the two forms to which we have attached special importance, gave much less definite results. Some of the animals have not yet, however, been examined microscopically. Control animals fed with other organisms gave quite negative results. These experiments have at least shown that diphtheroid bacilli isolated from cases of general paralysis may occasionally have sufficient virulence to determine in rats, by infection through the alimentary tract, a disease in which the chief symptoms are those affecting the nervous system, and in which the tissue changes have a certain resemblance to those found in general paralysis.

During the present year I have carried out similar experiments with four rabbits, adding to their food cultures of the *Bacillus paralyticans longus*, isolated from cases of general

paralysis. For nearly six months no morbid symptoms developed, but recently one of the animals, some weeks after feeding with cultures had been stopped, developed well-marked paresis, affecting chiefly the hind limbs, and a dulness and want of alertness that seem to indicate the occurrence of a cerebral affection. Other experiments upon rabbits, in which I have given repeated hypodermic injections of large doses of these bacilli, have served chiefly to demonstrate that it is extremely difficult to produce any well-marked nervous symptoms in these animals in this way.

In America Dr. John D. O'Brien (⁴) has recorded very striking results from experiments upon rats, dogs and goats. All of them within a certain period following inoculation of these diphtheroid bacilli "presented characteristic symptoms varying from drowsiness, stupor, muscular irritability, ataxia, reeling and stumbling gait, partial paralysis, to congestive seizures and death. Examination of the brains of a goat and two dogs revealed cortical changes closely resembling those seen in early cases of paresis. In two instances the organism, having been recovered from the vein of a case of paresis during a congestive seizure, was inoculated into dogs. In a few weeks' time the dogs developed varying symptoms, finally hemiplegia, and lay in a moribund condition for several days, finally dying in a long congestive attack. In one instance, during a seizure, the organism was recovered from the vein of a dog and successfully grown again."

The hypothesis regarding the ætiology of general paralysis and tabes advanced by my colleagues and myself rests, of course, upon a much wider basis of evidence than that derived from these experiments. This hypothesis is simply that one or other of the two species of diphtheroid bacillus that we have described, or some other organism endowed with similar pathogenic power, is exercising a toxic action upon the central nervous system. It is supported by many other observations of a bacteriological, histological, clinical and therapeutic nature. A large contribution of confirmatory evidence has been obtained quite independently by Dr. O'Brien, and the very precise experimental work of Drs. Orr and Rows has yielded results that show that certain of the lesions of general paralysis and tabes can be produced by the lymphogenous invasion of the nervous system by bacterial toxins. Not-

withstanding the large mass of unrefuted evidence by which it is supported, the view that certain species of diphtheroid bacilli are the chief agents in the production of these diseases has been treated with the utmost disdain by the great majority of alienists and neurologists, who have prematurely committed themselves to the view that "parasyphilis" is the last word that can be said regarding their ætiology. The few who have endeavoured to disprove the contentions of my colleagues and myself have, I venture to say, scarcely touched the problems that require to be solved. They have, however, exerted an enormous, and, I think, a very unfortunate influence, and it is for this reason that I refer to them here at all. I believe that under ordinary circumstances it would have been possible for us to work out this question long ago ; but the investigation has dragged, and from no fault of ours. The fact is that almost from its birth the hypothesis we have advanced has had to fight every inch of its way "in the teeth of clenched antagonisms," which have grown more openly hostile and more indifferent to consequences as time has gone on. There is a great deal more that I might, with ample justification, say about this matter, but for the present I refrain.

The new experimental results which I have to bring before you to-day have been obtained by a method different from that previously used. Early in the present year I succeeded in obtaining a certificate for the carrying out of intra-spinal injections of cultures in rabbits. I had long maintained that, in order to work out the question of the pathology of general paralysis, it would probably be necessary that experimental methods should be employed in which the bacilli were brought into actual contact with the nervous system, but I had previously regarded it as hopeless that an application for a certificate for such work would receive the necessary sanction.

The experiments have been carried out by means of intra-spinal injections made in the interspace between the seventh lumbar and first sacral vertebræ. The seventh lumbar spine lies at the level of the iliac crests, and the spine immediately below furnishes the guide for the needle, which should be inserted as nearly as possible in the middle line. The operation is in its first stage really that of lumbar puncture, and when there has been a free flow of cerebro-spinal fluid I have generally collected from '5 to 1 c.c. before proceeding to make

the injection of the culture. There seem to me to be good grounds for the expectation that by means of this experimental method it may be possible to obtain much light upon many problems of neuropathology that are still in dispute.

I have at present under observation ten rabbits that have been given intra-spinal injections of bacterial cultures, and four others have either died or been killed under chloroform for the purposes of the investigation. The experiments have been in progress for only three or four months, and I can therefore show you only some of the early results of what must naturally be a prolonged investigation.

The first animal with which I shall deal may be referred to as rabbit No. 17. It received two intra-spinal injections of broth cultures of a diphtheroid bacillus isolated from the genital tract of a female general paralytic, and having the broth reactions of the *Bacillus paralyticans longus*. For some time after it was isolated this organism was extremely virulent to mice. A second dose was given twenty-three days after the first. Each dose consisted of 2 c.c. of the unsterilised culture. The animal died unexpectedly a fortnight after receiving the second injection. For some days before its death it showed well-marked paresis of its hind limbs, but there were no symptoms indicative of a cerebral affection.

There was congestion of the membranes of the lumbar spinal cord. No cause of death in addition to the bacillary infection could be ascertained. Sections of the lumbar cord present those histological changes which, when they occur in the brain of the human subject, are regarded as warranting a diagnosis of general paralysis. There is infiltration of the pia arachnoid with lymphocytes and plasma-cells (Fig. 1). The vessels show proliferation of the cells of the adventitia, and many of them, especially in the outer half of the white substance, present dense aggregations of plasma-cells (Fig. 2). There is well-marked hypertrophy and proliferation of the neuroglia in a broad zone subjacent to the pia. In the grey matter many of the nerve-cells show distinct degenerative changes, though most of them appear healthy, and the glia cells are greatly increased in number. In sections deeply stained with Loeffler's methylene blue there are revealed, both in the grey and in the white matter, abundant smaller or larger globules of a pinkish tint and of irregular outline, which can be recognised as globules of



FIG. 1.—Rabbit No. 17. Pia mater of lumbar spinal cord. $\times 50$.



FIG. 2.—Rabbit No. 17. Plasma cells in wall of vessel in lumbar spinal cord. Methylene blue. $\times 800$.

To illustrate Dr. W. FORD ROBERTSON's paper.

altered myeline. In Marchi preparations of the same region of the cord very many, but by no means all of these globules show a black reaction. Many of the axis cylinders are swollen and varicose. There is thus a severe degree of primary degeneration of the nerve-fibres. The morbid changes in the brain are exceedingly slight, and the toxins that have affected the cord with such potency would appear not to have reached the brain in any great measure.

The second rabbit is No. 19. It received three intra-spinal injections of broth cultures of a diphtheroid bacillus of the *Bacillus paralyticans longus* type, isolated from the cerebro-spinal fluid of a general paralytic during life. Intervals of twenty-three and fourteen days separated the second and third injections. Latterly it suffered from a moderate degree of paresis of the hind limbs. This rabbit, like No. 17, died quite unexpectedly. It was found dead in its cage about twenty hours after it had received the third injection. The histological changes are identical with those described in the previous rabbit, but they are less advanced.

In the third rabbit, No. 20, the morbid process was of much longer duration. This animal in the course of three months received seven intra-spinal injections of cultures of the same strain of the *Bacillus paralyticans longus* as was used in the preceding experiment. It was killed by means of chloroform, six weeks after the last injection and about four and a half months from the time of the commencement of the experiment. For the first three months this rabbit showed only a moderate degree of paresis of the hind limbs. The paresis then became more marked and cerebral symptoms began to manifest themselves. The animal could progress only very slowly; its gait might be most accurately described as like that of a caterpillar. The rabbit became extremely dull and drowsy. It lost all its natural timidity and alertness. When taken from its cage and laid on the grass it would nibble a few blades and then seemingly go to sleep. When dogs were brought near it it displayed no natural appreciation of the danger it was incurring. On one occasion a large collie, under control, was allowed to approach it until the noses of the two animals almost touched. The rabbit showed not the slightest sign of fear, or even of interest. The dog was allowed to advance so near that its nose momentarily touched that of the rabbit, which, instead of

bolting, responded by reciprocating the courtesy. In short, this rabbit showed a profound degree of dementia, as well as of paresis. Another interesting feature that it presented was great exaggeration of its reflexes. This could be demonstrated by simply holding the animal up by its ears. It was immediately thrown into a state of generalised clonic contraction.

This rabbit was killed only eleven days ago, and the microscopical examination of its nervous tissues is therefore still incomplete. At the *post-mortem* there was little of an abnormal character to be observed, excepting congestion of the membranes of the lumbar cord, and to a less degree of those of the rest of the central nervous system. The microscopical changes in the lumbar cord are essentially the same as those already described in rabbit No. 17, but there are certain special features. The plasma-cells in the walls of the intra-spinal vessels are less abundant. They occur mainly as large cells scattered along the course of some of the smaller branches (Fig. 3). Primary degeneration of the medullated fibres is extremely well marked. It affects most severely the small fibres of the grey matter and the posterior columns. In the brain there are only slight evidences of proliferation of the cells of the pia-arachnoid and of the neuroglia of the outermost layers of the cortex. The vessels of this region occasionally present some proliferative changes in their walls and some plasma-cells have been observed. The nerve-cells do not show any very gross alterations. In sections deeply stained with methylene blue the medullated fibres of the subcortical white matter show severely marked morbid changes, similar to those that affect the fibres of the lumbar cord. In association with this primary degeneration of the medullated fibres there are at the cortical margin distinct proliferative changes in the walls of the vessels, accompanied by the development of some plasma-cells. There is also well-marked proliferation of the cells of ependyma. It is evident that the toxins which have so severely affected the lumbar cord of this rabbit have not in any great measure reached the surface of the brain. They would, however, appear in some way to have affected directly the medullated fibres of the interior of the brain.

The fourth rabbit, No. 24, was the subject of a special experiment, which has been carried out upon two animals. I have now made over forty intra-spinal injections of simple



FIG. 3.—Rabbit No. 20. Plasma cells in wall of vessel in lumbar spinal cord.
× 800.

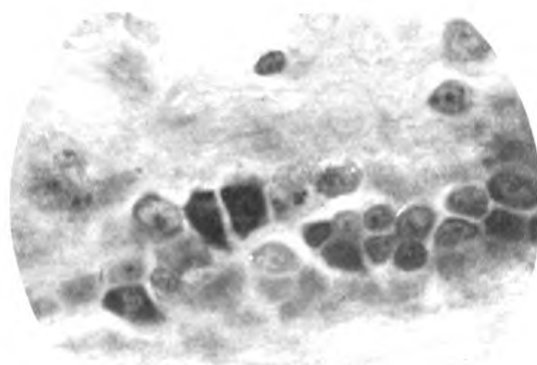


FIG. 4.—Rabbit No. 24. Plasma cells in wall of vessel in lumbar spinal cord.
× 800.

To illustrate Dr. W. FORD ROBERTSON's paper.

Adlard & Son, Impr.

cultures of diphtheroid bacilli, and I have never observed the occurrence of any immediate toxic symptoms. Transitory paresis of the hind limbs has occasionally occurred, evidently from pressure, when the dose has exceeded 2 c.c. in volume, and I have therefore for some time past never given an injection larger than 1 c.c. I wished to test an hypothesis which I have long had in view, namely, that when these diphtheroid bacilli grow in the presence of nervous tissues a special neurotoxin is formed which has much importance in the pathogenesis of general paralysis. I therefore prepared a sterile emulsion of rabbit's brain and salt solution, and used this as a culture medium for the *Bacillus paralyticans longus*. I do not wish, on the present occasion, to go into all the details of these experiments, but simply to mention the main facts that have been ascertained.

When a culture of the kind that I have described is injected into the spinal canal of a rabbit, in a dose of less than 1 c.c., but of sufficient volume to insure that the fluid will pass up to the brain, the animal is, within thirty seconds, thrown into a condition exactly resembling that of a general paralytic in a congestive seizure. It becomes paralysed and unconscious, and exhibits characteristic general muscular twitching. After from three to five minutes it recovers consciousness and the twitches cease. Thereafter the animal remains for many hours in an extremely drowsy condition. These phenomena have been produced on four occasions, twice in each of the two rabbits on which the experiment was carried out. One week after I had given the first injections which were followed by these symptoms, I similarly injected into the same two rabbits 1 c.c. of emulsion of rabbit's brain, which had been incubated, but not inoculated with bacilli, and no toxic phenomena of any kind supervened. It is therefore evident that special toxic substances are produced by these bacilli when they grow in the presence of brain substance, and these toxins are capable of inducing in rabbits symptoms resembling those of a congestive seizure in a person suffering from general paralysis.

This rabbit was killed by means of chloroform eight days ago, on the morning following that upon which the second congestive seizure had been induced. There was well-marked congestion of the membranes of the brain and spinal cord. The microscopical examination is necessarily as yet incomplete,

but the main facts regarding the tissue changes in the nervous system have been ascertained. In the lumbar cord all the morbid alterations affecting the membranes, neuroglia, vessels and nerve-fibres of this region in the three other rabbits are exhibited in a very severe form. The walls of many of the vessels are densely infiltrated with plasma-cells (Fig. 4). In the brain there are distinct evidences of recent reactive changes in the pia-arachnoid, in the neuroglia of the first layer of the cortex and in the cortical vessels, but the chief morbid appearances occur, as in rabbit No. 20, in the white substance. Here there is a great multiplication of the glia cells, cellular infiltration of the walls of the vessels and severely marked degeneration of the medullated fibres. There is also distinct proliferation of the cells of the ependyma.

In these four rabbits the morbid alterations that have occurred in the lumbar cord, that is to say in the neighbourhood of the injection, are exactly of the nature of those that are found in the brain in many cases of early general paralysis, before the nerve-cells have undergone any great amount of degeneration. In none of them has the toxic action been exerted to any great extent upon the cerebral cortex, but who will be so bold as to say that if the injections had been made under the cranial dura, instead of in the lumbar region, the reactive changes in the subjacent nervous tissues would have been essentially different?

By means of intra-spinal injection of these cultures I have as yet succeeded in producing in the brain, in well-marked degree, only a condition of subcortical encephalitis. It seems probable that toxins spreading from the spinal canal to the cranial cavity in some way first reach the deeper portions of the encephalon.

There are certain other respects in which the animals subjected to these experiments resemble cases of general paralysis in the human subject. I have examined the centrifuge deposit from the cerebro-spinal fluid of several of the rabbits, and it has always shown a well-marked lymphocytosis. In four instances I have applied the Nissl-Nonne test, which, it is alleged, is diagnostic of general paralysis, giving positive reactions corresponding to those of the Wassermann reaction. In each case it was distinctly positive. Further, I have on two occasions made cultures from the centrifuge deposit of the

cerebro-spinal fluid withdrawn seven days after the injection of a full dose of a living culture of bacilli, and all the tubes have remained sterile. Cultures made from the brain and spinal cord of rabbit No. 20 within an hour of its death similarly yielded no growths. There is thus experimental proof that these organisms are rapidly destroyed when brought into contact with the nervous system of the living subject, and the explanation which Dr. McRae and I have given of the difficulty in growing the bacillus from the cerebro-spinal fluid of the general paralytic receives experimental confirmation. Also, as in the human subject, there is the greatest difficulty in recognising any bacilli in sections of the morbid tissues.

I have at present under observation six other rabbits which have received intra-spinal injections of similar cultures, and all of them show more or less pronounced symptoms, either of paresis, or of inco-ordination.

A rabbit which has received four intra-spinal injections of similar doses of Hoffmann's bacillus, isolated from the uterus of a general paralytic, showed no abnormal symptoms until after the fourth injection, when for a few days it exhibited some temporary weakness in its hind limbs. Two other rabbits have each been given two intra-spinal injections of cultures of Gram-fast diplococci isolated from the urethra of cases of tabes and general paralysis. No morbid symptoms have supervened. A fourth rabbit was given an injection of about 3 mgrm. of an organism, the exact nature of which is as yet doubtful, isolated from the urine of a case of tabes. This injection was repeated after nine days, and five days later the animal began to manifest peculiar nervous symptoms, differing completely from those shown by the rabbits injected with virulent diphtheroid bacilli. At first there was inco-ordination of movement of so extreme a character that the animal was unable to progress or even to stand. After a little time stiffness of the neck and deviation of the head to one side were noticed. Power to move the head was not, however, lost. After a week or so the rabbit became able to sit up, but efforts to progress resulted only in rotation of the body on the axis of the hind legs. The animal is now, some weeks later, able to hop about, but only with considerable difficulty, due, not to muscular weakness, but apparently to inability to co-ordinate its movements. Throughout its illness this rabbit has shown

a tendency to assume postures that remind one of the statuesque attitudes of katatonic patients.

None of these control rabbits have yet been examined microscopically. In this connection there are two facts to be borne in mind. In the human subject other forms of acute and chronic meningitis of known bacterial origin do not produce the anatomical lesions of general paralysis, and it is extremely unlikely that the nervous tissues of the rabbit react to particular toxins in a way essentially different from those of the human subject. There is ample evidence, in the experimental work of Marinesco and others, that intra-spinal injection of the common laboratory micro-organisms does not produce in rabbits either the symptoms or the anatomical lesions of general paralysis.

(1) Paper read at the Annual Meeting of the Medico-Psychological Association, and illustrated by lantern and microscopical demonstrations.—(2) *Review of Neurology and Psychiatry*, May, 1903.—(3) *Journal of Mental Science*, July, 1907.—(4) *American Journal of Insanity*, July, 1908.

DISCUSSION,

At the Annual Meeting, held at Leeds, July 23rd, 1909.

The PRESIDENT said the Association was very greatly indebted to Dr. Ford Robertson for his very valuable paper. It was a record of the kind of work which the specialty wished done—good solid work of very great value. There was much material in the paper for a good discussion. He particularly admired the slides which the author had shown. He would like to know on what basis Dr. Ford Robertson would say the condition was not due to an ascending myelitis, and not a matter of dementia simply.

Dr. ORR said he had seen part of the demonstration by Dr. Robertson in Glasgow a fortnight ago, but not in nearly so complete a form as on the present occasion. The demonstration now given was very much more convincing, and he had examined more cases. He was particularly struck with the histological evidence of the neuro-toxicity of the bacillus. He felt more at home in histology than in bacteriology, and that was the reason he did not join to any extent in the preceding discussion. The histological evidence of that neuro-toxicity was very strong, and came into line with some work which Dr. Rows and he were doing at the present time. Three years ago they published the results of toxic infection of the lymph-paths leading up to the spinal cord, and the method they employed was one which eliminated the fallacy of injury to the cord. They took a small celloidin capsule, filled it with micro-organisms, placed it under the sciatic nerve of a dog, and left it there for a time, when they found the toxin escaped from the capsule and entered the lymph paths of the sciatic nerve, and caused degeneration of the myelin. To make the experiment complete, it was necessary to trace the evidence of that upward passage of toxins right along the nerve and the posterior root ganglion to the cord itself which was done. In order to try to kill two birds with one stone they used Dr. Robertson's *Bacillus paralyticans* with one series of experiments, and the *Bacillus coli* and *pyocyaneus*, streptococci and the pneumococcus, in order to control the results obtained by the *Bacillus paralyticans*. With regard to the question of specificity they had nothing to say at present; they agreed that until they had done more experiments it would be better to suspend judgment. They would only say at present that the bacillus of Robertson and

McRae was a very highly neuro-toxic one, and the changes could be traced in the perineurium and endoneurium as far as the posterior root ganglion; there were changes in the smaller vessels with proliferation of the adventitia. Put briefly, on reaching the posterior root ganglion they found a great deal of cell degeneration of a peripheral type, not central. In addition, the cells forming the capsule to each nerve-cell showed marked proliferative changes. At some points there would be seen quite a deep band of proliferated capsule cells. The most striking change in the cord was a dilatation of the central canal, the ependymal cells were proliferated several deep, and the neuroglial cells about the ependyma showed marked proliferation, while the nerve-cells showed coagulation necrosis. The nuclei of the cells showed homogeneous atrophy, as described by Sarbó and others. There were also myelin changes, confined almost entirely to the root entry zones, that is, where the posterior roots entered. These myelin changes were demonstrated by the Marchi method. Here he thought they had distinct evidence that the bacillus described by Robertson and McRae was highly neuro-toxic.

Dr. WILLIAMSON said that Dr. Orr had fully confirmed the neuro-toxicity of Dr. Ford Robertson's *Bacillus paralyticans*, but in saying it was highly toxic he meant it was toxic compared with the colon bacillus. He asked whether the other organisms which Drs. Orr and Rows used had been passed through a general paralytic.

Dr. ORR replied in the negative; they could not start passing the organism through general paralytics, but when passed through rabbits it showed increased virulence.

Dr. WILLIAMSON rejoined that the environment which a rabbit presented to a growing staphylococcus would be very different from the environment of a man who was suffering from acute nerve changes, and consequently the peculiar toxicity of the organism might depend very much upon the source.

Dr. ORR said he could reply at once to that point. By passing an organism through an animal its virulence was increased, but the changes produced by it were not so great as those found after using the *Bacillus paralyticans*.

Dr. McRAE said there was one point which he thought it only fair to clear up. There might be some present who would like to know what was the matter with the other rabbit, which Dr. Robertson did not think had general paralysis. When they began the original experiments many of the rats in the experiment room became like this rabbit; they were in cages and were not being injected with the *Bacillus paralyticans longus* or *brevis*, but were control cases, fed with other organisms. They were not sure they were not producing general paralysis in those cases! They waited a little, and in the breeding-houses, where they had 400 or 500 rats, an epidemic of this condition broke out. No organisms had been introduced by Dr. Robertson or himself wittingly. Possibly this diplococcus might be specific for this peculiar nervous manifestation, or it might be a form of athetosis common to rats and rabbits, which had not yet been described.

Dr. FORD ROBERTSON, in replying, said he quite agreed with the President that there was in these four rabbits an ascending myelitis of a somewhat acute character. But it was something in addition to that. There were meningeal, vascular, glial, and nerve cellular changes similar to those of general paralysis. He had been following the work of Dr. Orr and Dr. Rows, and it was very gratifying to him to see that in their experiments severe toxic changes were produced by these special bacilli. He had forgotten about the rats to which Dr. McRae referred. The phenomena in the control rabbit were certainly very like those in the rats, but while they were those of a nervous disease, they were quite different from the symptoms manifested by the other ten rabbits. He had been extremely gratified by the way in which the communication had been received, and in its reception he had been amply rewarded for the trouble he had had in preparing it.

The Bacillus Paralyticus. By GEO. SCOTT WILLIAMSON, L.R.C.P. & S. Edin., Pathologist to the West Riding Asylum, Wakefield.

THIS research was undertaken to establish, as far as possible, Drs. Ford Robertson's and McRae's ætiological hypothesis for general paralysis of the insane. It is hardly necessary to emphasise the importance of giving the fullest consideration to this theory, being, as it is, the first serious attempt of its kind to bring mental disturbance into the category of physical disease, to establish the wealth of histological observation in its place as an effect, and to break from the bugbear of metaphysics and perversion of psychic function. I should like to make it clear that though this research may controvert the ætiological significance of the bacilli of Ford Robertson, it in no wise attacks the fundamental theory of a toxic cause acting through the very definite channels of infection established by Drs. Orr and Rows.

TABLE I.—*Biochemical Reactions of Diphtheroids, giving the Serum Reactions of Infection.*

	K.L.B. ¹	Hoffmann.	Xerosis.	Septus.	Pseudo.	No. 2.	No. 3.	Milk.	No. 2.	Paralyticus Z.	Bacillus B.
Litmus											
Glucose	+	—	+	+	+	+	—	—	+	+	+
Lævulose	—	—	—	—	—	—	—	—	—	—	—
Galactose	—	—	—	—	—	—	—	—	—	—	—
Lactose	—	—	—	+	—	—	—	—	+	—	—
Maltose	+	—	—	—	—	—	+	—	—	—	—
Saccharose	—	—	+	+	—	+	—	—	—	—	—
Raffinose	—	—	+	+	—	—	—	—	+	—	—
Arabinose	—	—	—	+	—	—	—	—	+	—	—
Dextrin	±	—	+	—	—	+	—	—	+	—	—
Inulin	—	—	—	—	—	—	—	—	+	—	—
Glycogen	—	—	—	—	—	—	—	—	—	—	—
Salicin	—	—	—	—	+	+	—	—	—	—	—
Amygdalin	—	—	—	—	—	—	—	—	—	—	—
Glycerine	—	—	+	—	+	+	—	—	—	—	—
Mannit	—	—	—	—	—	—	—	—	—	—	—
Dulcit	—	—	+	—	—	—	+	—	—	—	—
Sorbit	—	—	—	—	—	—	—	—	—	—	—
Arabin	—	—	—	—	—	—	—	—	—	—	—
Milk	—	—	—	+	—	—	—	+	+	—	—

¹ K.L.B. gives very rarely a positive with salicin and glycerine.

I have encountered organisms having the morphological and biochemical features of the *paralyticans* in 100 out of 532 cases examined, and in about 730 bacteriological examinations during two and a half years.

The above table illustrates the biochemical reactions of the various members of the group. With carefully prepared media the reactions are most constant. The tests were applied immediately after isolation in pure culture. The bacillus described by Ford Robertson as *Paralyticans brevis* is the commoner organism, about 60 *per cent.* of the *paralyticans* type. The general diseases in which the bacilli were found include the most diverse conditions; in eleven of these the organisms were obtained in a pure condition in the initial blood-serum plating. These eleven cases include:

Post-partum fever, 1; infective endocarditis, 1; sinus in the bladder, 1; sinus in the thigh, 1; pustular acne, 3; cystitis with oxaluria (from the urine), 4.

In 59 cases the organism was associated with others, more especially the other diphtheroids, staphylococcus, streptococcus, coliform bacilli, pneumonococcus, and *Micrococcus catarrhalis*. The cases include:

Acute nasal catarrh, 11; chronic septic vaginitis, 8; urethritis, chronic, 7; pustular acne, 5; septic sinuses, 5; chronic middle-ear disease, 3; hypertrophic rhinitis, 3; atrophic rhinitis, 2; infective endocarditis, 2; rheumatic arthritis, 2; post-partum uterine sepsis; and 1 each of chronic endometritis, chronic parotitis, perirectal abscess, antral disease, lateral sinus thrombosis, sub-diaphragmatic abscess, necrosis of bladder-wall, eczema, and keratitis punctata.

In addition to the above, the bacilli have been found in 10 tubercular sputa, in 3 urines, and in 17 throat swabs taken for diphtheria, and 3 times in fæces.

In general paralysis, the insanities and the controls, the bacilli were obtained only once in pure culture, and that from the cerebro-spinal fluid from a case of secondary dementia dead from tuberculosis.

The figures make it plain that—(1) these bacilli are not at all uncommonly found on the normal body, and suggest the possibility of a definite pathogenic function; (2) that the paralytic type of diphtheroid increases with any increase of the group as a whole; (3) that institution cases, normal and diseased, more

readily yield the bacilli in culture, but not more so than the diphtheroid group as a whole; (4) that what may appear at first sight to be an increased prevalence in general paralysis is but an indication of the general increase of the group in institution cases, *i.e.*, though the curve of incidence for general paralysis

TABLE II.—*Table of Percentages for Comparative Purposes (not Statistical).*

	Number of cases.	Type of diphtheroid.					Number of examinations.
		<i>Paralyticans.</i>	Hoffman.	Xerosis.	Others.	Group.	
		<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	
General diseases . .	422	16.5	21	12.5	3	45.5	422
General paralytics . .	44	23	41	9	4	57	63
Normal persons . .	58	21	42	7	7	54	76
Other insanities . .	42	19	41	7	0	57	42
Attendants . .	16	31	50	25	12	75	27

TABLE III.—*Table to show the Total Diphtheroid Numbers and the Number of Each Type.*

	Number of cases.	Source of material.	Number of cases yielding diphtheroids.					Other organisms.	Pure culture.
			<i>Paralyticans.</i>	Hoffman.	Xerosis.	Others.	Group.		
General paralysis of the insane . .	21	Throat . .	3	7	3	—	11	21	—
	21	Skin . .	8	8	3	3	18	21	—
	21	Blood . .	2	3	—	—	4	8	—
	21	C.S.F. life . .	1	2	—	—	3	7	—
	23	C.S.F. P.M. . .	4	6	1	2	7	22	—
Normal persons . .	38	Throat . .	5	13	2	3	21	38	—
	38	Skin . .	6	14	5	4	21	38	—
	15	Blood . .	—	3	1	—	3	5	—
	10	C.S.F. life . .	—	1	2	1	3	4	—
	24	C.S.F. P.M. . .	3	5	1	3	8	24	—
Other insanities . .	8	Throat . .	8	2	5	—	5	8	—
	15	Skin . .	5	6	2	—	10	15	—
	22	C.S.F. life . .	3	5	3	—	6	11	—
Attendants . .	34	C.S.F. P.M. . .	4	7	—	—	7	27	1
	11	Throat . .	3	8	4	2	11	11	—
	16	Skin . .	4	7	4	—	10	16	—

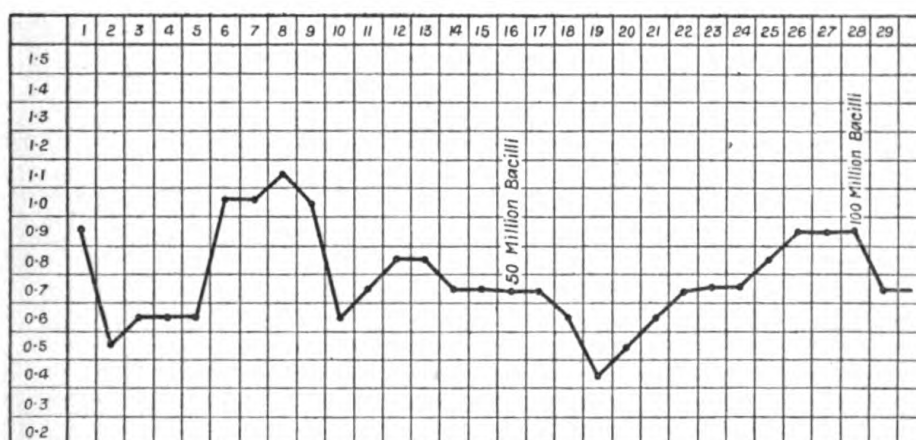
Normal persons meaning those free from any obvious bacterial infection. All C.S.F. obtained within four hours of death.

would be placed further from the abscissa, the outline of the curve is the same in the normal healthy, institution healthy and diseased.

This increase of a group of organisms in institution cases is no uncommon thing; staphylococci, streptococci, and other organisms will readily afford examples. Nor is the frequency of one type of organism uncommon in institutions—staphylococci, streptococci, coliform bacilli, exhibit this often to a striking degree.

It is generally conceded that, coincident with organismal infection, there is a change in that content of the blood-serum,

CHART I.—Opsonic Index. *B. Paralyticans Brevis* (Pure).
Case, *Acne*.



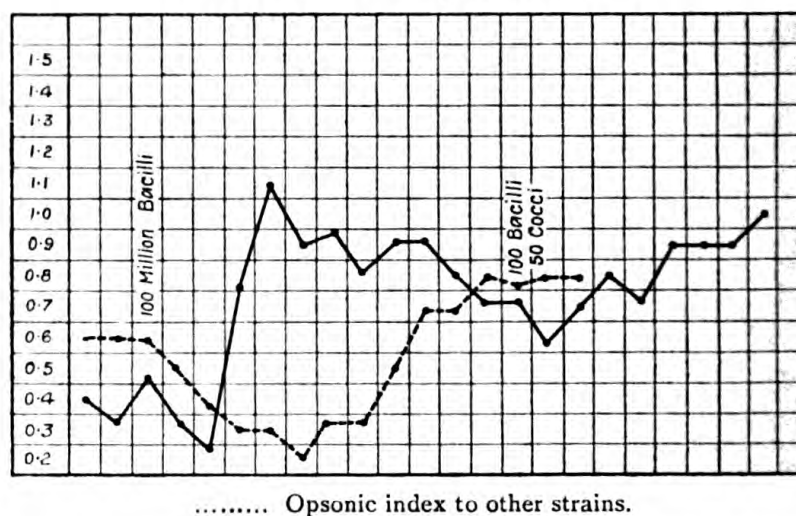
Type of curve in *paralyticans* infection.

which aids phagocytosis, the so-called opsonin; and that a bacillary infection gives rise to an immune body. In a general way a variation of the opsonic index to an organism may be taken as a guide to infectivity. In the eleven cases of general disease above detailed three only gave an index which could be considered as abnormal.

The opsonic chart shown is typical of these three cases, and is, further, typical of an infection. The fluctuations are generally accounted for by auto-inoculation with bacillary toxin. In the cases of mixed infection thirteen of the fifty-nine gave a similar curve. It is usually possible to steady the opsonic curve by inoculation with the bacilli of infection. The above cases

responded readily to such inoculation. It may be taken, then, that these organisms can be infective, and as such can cause a rise or fall in the opsonic index. In general paralysis only one such case occurred, having the index curve shown; the patient was suffering from acne spread over the legs and thighs, yielding a staphylococcus and *Bacillus xerosis*. On the same chart the general curve of indices to six other strains of the organisms is shown. Though an ultimate response to inoculation with the autogenous organism does occur, it is slower in the rise, but corresponds with an established improvement; the members of the group can aid in steadying the opsonic curve. This

CHART II.—Opsonic Index. *B. Paralyticans Longus*.
Case, General Paralysis with Acne.



suggests the group reactions of agglutinins as fully worked out for the colon-typhoid group. In the other general paralytics the index is low compared to the normal, the curve approximating a straight line. This subnormal condition also applies to staphylococci, *Bacillus coli*, streptococci, pneumonococci, and to the majority of the commoner pathogenic organisms. The tubercular index is usually about the average normal. These opsonic curves apply to thirteen strains of *B. paralyticans*; no instance occurred in which a variable index was encountered, apart, of course, from the acne case.

The normal index is from '93-1'23.

The attendants '81-1'3.

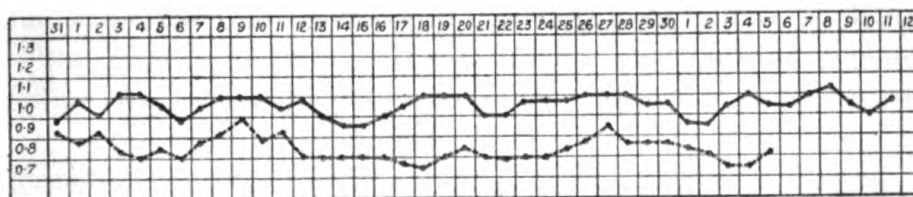
The general paralytics '78-1'1.

The other insane '75-1'0.

To test the possibility of variation in the serum, injections beginning with 20,000,000 bacilli were given and the index noted; four separate strains and a pooled culture were used in making the vaccines. The response to inoculation is good in

CHART III.—*Opsonic Index. B. Paralyticans Brevis; 8 Strains.*

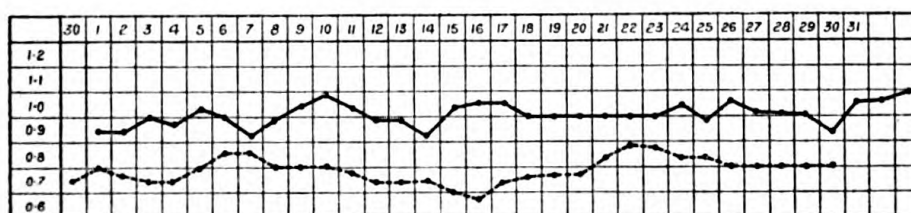
— Average 54 normals. '93 to 1'23.



..... Average 20 normal general paralytics.

CHART IV.—*Opsonic Index. B. Paralyticans Longus; 5 Strains.*

— Average 54 normals. '89 to 1'19.

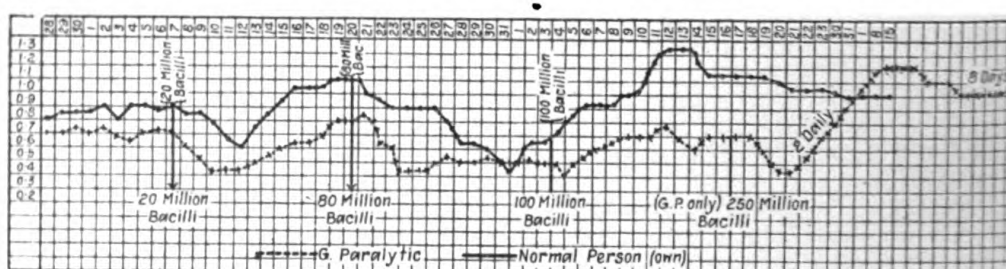


..... Average of 20 normal general paralytics.

general paralysis and insanities, though somewhat quicker in the rise and fall compared to the normal. Injection up to 250,000,000 bacilli maintaining the opsonic index at or about 1'2 and 1'3, creates no improvement in general paralysis nor has any exacerbation in the course of the disease ensued thereon—observations extending over seven months in five cases. By producing a summation of negative phases a very definite fever may result but no exacerbation of any paretic or

other symptoms—three cases. In general paralysis and the insanities there is, then, a lowered resistance to this diphtheroid, and this is in keeping with similar observations on the other diphtheroids, cocci, and other organisms. So far as this opsonic test goes the general paralytic is not in the same category as the cases having a definite infection of a more or less chronic nature, but may be in keeping with the fifty-four cases with normal indices having the organisms present at the seat of infection. It seemed possible, then, that the *B. paralyticus* obeyed no rule as to an opsonic response, while being pathognomonic. This is not a common occurrence in disease, but it is seen in diphtheria and tuberculosis and perhaps some other conditions. In these cases the deviation of the complement test, Bordet-Gengou phenomenon, appeared to be appli-

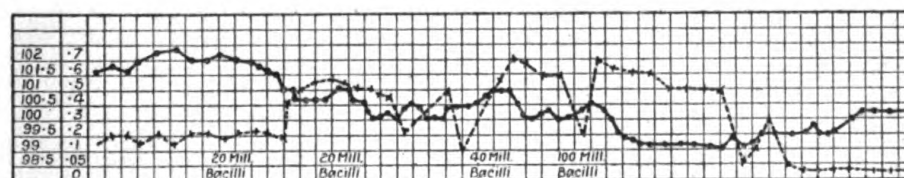
CHART V.—Opsonic Index. *B. Paralyticus Brevis Vaccine*.



cable. Using the emulsion of the bacilli as an antigen I tested twelve opsonic positives and twelve opsonic negatives among the general diseases, twenty-two general paralytics, ten insanities and five normal persons. All the opsonic positives gave a positive result, *i.e.*, the complement was bound by the antigen and hæmolysis did not occur; only one other case gave a positive result, and that was the general paralytic with acne, again an opsonic positive. It would appear, then, as far as this test goes, the *B. paralyticus* is not pathognomonic to general paralysis. It may, however, be argued against any such conclusion that other organisms definitely infective do not give this test. Selecting eleven cases of diphtheria I used the autogenous bacilli (free from toxin) as antigen, and found that only one case gave a positive complemental test. Thus diphtheria may be cited as an example of the latter argument.

That tubercular disease sometimes fails to give this test is well known. It seemed justifiable to place general paralysis in the same category as diphtheria and tuberculosis as far as the opsonic and the Bordet-Gengou reactions go, always accepting the bacillary hypothesis. It seemed to me very possible that though there was no demonstrable immune body in infections with tubercle bacillus and diphtheria bacillus, there might be an immune body to diphtheria and tuberculosis—that is to say, the antigen was not the bacilli but the product of bacilli and local tissues. Acting on this I prepared an emulsion of tubercular liver and kidney and of diphtheritic membrane, filtered both through a Chamberland candle, and used these as the antigen. Selecting nine cases of tuberculosis (six of them caries, two tubercular lupus, and one phthisis)

CHART VI.—*Induced Low Index. B. Paralyticans Brevis and Longus Vaccine.*



..... Temperature.

which gave negative complemental tests by the usual method, and five cases of diphtheria of the same type, I applied the test, using the new antigen, with positive results in every case. One control, a case of scarlet fever, gave a positive result. The other controls were—two cases of pneumonia, three of scarlet fever, one Bright's disease, one typhoid, one of hydatid disease, and eight normal bloods. Without venturing an opinion as to the specificity of this reaction in the above diseases I thought it comparable with the *paralyticans* in general paralysis, since it seemed to prove that an antigen can be produced at the seat of disease apart from the organism itself. The antigen *paralyticans* was made from uterine scrapings from the opsonic positive case of uterine disease giving a pure culture of the bacillus. This antigen gave positive results in twelve cases, positive by the ordinary method and also opsonic

positive. It gave negative results with six normal sera, ten general paralytics and thirteen insanities. The case of acne in general paralysis was not tested. In this general paralysis is unlike diphtheria and tuberculosis.

The next step was to use an emulsion of nervous tissue of general paralysis as an antigen. Three typical brains were used as this antigen. While general paralysis serum gave positive results in seventeen out of twenty-two cases of general paralysis, no positives occurred in any of the cases in which these serum reactions had proven a definite infectivity. Thus the antigen body in the brain of general paralysis, if such it is, is not the same as the antigen of the *Bacillus paralyticans* in true infections. In conclusion, I would state that time has not permitted the including of the details of controls, but these controls covered every possible source of error.

To summarise, it may be taken as proven that bacilli having the characteristics of Drs. Ford Robertson's and McRae's paralytica type do exist.

That they are widely distributed, and would appear to be of the common organism of the normal skin and throat.

That they can give rise to disease.

That the disease is generally of a chronic type.

That these bacilli disturb the opsonic content of the blood serum.

That they produce an immune body.

That they can act as an antigen.

That an antigen may also be produced at the seat of disease.

That the blood-serum of the person infected by these bacilli does give the serum responses typical of bacillary infections.

That the general paralytic can give all the above tests in response to artificial and natural infection with the *Bacillus paralyticans*, but does not.

That while the bacilli of Drs. Ford Robertson and McRae may be a considerable factor in the secondary infections of many general paralytics it is not alone in this respect, but only presents a peculiarity of the diphtheroid group as a whole, and that in common with other organisms, of flourishing where there is a lowered resistance.

That the establishing of a special neurotoxicity for the bacilli is not a complete argument for its specificity in general paralysis of the insane.

DISCUSSION,

At the Annual Meeting held at Wakefield, July, 1909.

Dr. W. FORD ROBERTSON said that he desired, in the first place, to acknowledge the extraordinary courtesy Dr. Williamson had shown in sending him, a few days ago, a copy of his paper. One must recognise the vast amount of labour that these observations had entailed. It was something at least to be regarded with satisfaction that Dr. Williamson had been able to confirm the existence of these special types of diphtheroid bacilli, for there were other "competent bacteriologists" who had been unable to do so. The paper was, however, obviously intended to be a very serious attack upon the position maintained by his colleagues and himself, and as such it must be dealt with. He thought that Dr. Williamson had laid himself open to adverse criticism at many points. It was a fundamental error to have slumped the various bacteriological examinations as had been done, for the isolation of these special bacilli from a mucous surface that normally harboured micro-organisms was of comparatively trivial importance. A totally different significance was to be attached to the isolation of these bacilli from the cerebro-spinal fluid or blood during life. He and his co-workers had fully recognised the wide distribution of these bacilli upon mucous membranes, and their occurrence in persons who did not suffer from general paralysis. What they maintained was, that certain highly virulent strains of these bacilli were handed on, generally venereally, and that, when in this way they reached susceptible persons, they invaded the tissues and infected the central nervous system, and so produced general paralysis. Whether this infection was always an organismal infection, or might sometimes be only a toxic infection, was an open question. These facts and distinctions received no recognition from Dr. Williamson. It was further unfortunate that the virulence of the bacilli isolated could not be tested. They had attached importance to bacilli which were virulent to mice, though it was true that all strains did not manifest this character. But as a matter of fact they never regarded any of these bacilli as important unless they were proved to be virulent to mice, or there was evidence that they were invading the patient. Many of the strains isolated by Dr. Williamson in control cases might have been of little virulence, and therefore unable to invade the tissues. Again, it was not the case that they had attributed exclusive importance to those two strains of diphtheroid bacilli. They had left it an open question whether or not other micro-organisms with similar pathogenic powers produced general paralysis. They had also attached importance to secondary infections. The tabulation of results from normal persons was to his mind incredible. There was something wrong here, which indirectly affected one's trust in the other results recorded. With regard to the cases termed "other insanities," there was no proof that some of them might not have been early cases of general paralysis. Besides, they had fully recognised that the pathogenic action of these bacilli covered a much wider field than that of general paralysis. In general paralysis there was simply the special fact of a cerebral infection, either micro-organismal or toxic. His results with opsonic tests were just the converse of those recorded by Dr. O'Brien, who constantly obtained opsonic responses, and who had found that there were continual fluctuations in the opsonic index towards these bacilli in cases of general paralysis. Dr. O'Brien had the immense advantage that he had obtained a series of excellent therapeutic results by the use of vaccine treatment under the guidance of the opsonic index. Dr. Williamson had admitted the uncertainty of the application of these opsonic tests in this investigation, and yet he made very far-reaching generalisations from his results. He had likewise admitted that the deviation of the complement test might not be applicable in general paralysis if the special bacilli were used as the antigen. He had, further, when he used general paralytic's brain as the antigen, obtained a deviation of the complement in seventeen out of twenty-two cases of general paralysis. This was a remarkable result, and one probably of much greater importance than the observer attributed to it. Indeed, he had tried to minimise its importance by saying that "no positives occurred in any of the cases in which the above serum reactions had proven a definite infection with the *paralyticans* types." Apart from the question of the value of the alleged proof of such definite

infection, it was to be pointed out that he was failing to make a distinction between cases in which there was a simple infective focus in a mucous membrane and those in which there was cerebral infection with destruction of nervous tissues. They at least had made such a distinction, and had recognised that there were very many persons who were defending themselves against the local attack of these special bacilli without suffering from general paralysis. For these tests to have any precise value it would be necessary to study them in animals artificially immunised with these micro-organisms, and in others in which a chronic infection of the nervous system had been produced. Much of the evidence that Dr. Williamson had brought forward was of very uncertain interpretation, and he was, the speaker thought, very far from having established his contention that his results controverted the ætiological significance of these diphtheroid bacilli. The evidence to which they attached special importance remained untouched, and it was a curious fact that Dr. Williamson had not alluded to a single item of it in a paper which professed to be an attack upon their position.

Dr. WILLIAMSON asked permission to reply to Dr. Ford Robertson at once. Dr. Robertson brought forward the question of virulence. It was a very well-known thing in bacteriology that animals could not give evidence of virulence and be compared with human beings in any and every bacteriological infection. There were certain organisms which were very virulent indeed to some animals but not at all virulent to guinea-pigs, so much so that unless the virulence of the diphtheria bacillus had been proved by its source, the mere use of the guinea-pig and the fact of the guinea-pig dying therefrom did not give an indication of virulence; it simply showed the virulence to the guinea-pig. All the immuno-chemistry which had been done went to prove the fundamental differences between sera of the guinea-pig and sera of the human being. The probability was that those immune responses in sera were directly derived from the type of bacilli which were circulating in the blood, be it guinea-pig or human being. The habitat of certain organisms was peculiarly human. Consequently one would say that the virulence, as far as guinea-pigs was concerned, was a considerable evidence as establishing Dr. Ford Robertson's hypothesis as to the toxicity, but it was not a justifiable argument for the ætiology of the bacillus as applied to general paralysis. But he did maintain that the opsonic tests and the deviation of complement tests were tests of virulence; they proved the virulence of diphtheroid bacilli as to whether or not they could produce disease in human beings, and the great point was that concerning human beings. His opsonic tests showed him that those organisms could give rise to disease. And as far as he had gone in investigating general paralysis—he admitted he had only done twenty-two cases—looking at it peculiarly from the point of view of the opsonins and the immuno-chemistry, he could see no reason for ascribing to the bacillus a special virulence in connection with general paralysis. With regard to the infection being peculiar to nerve-tissues, and the point made by Dr. Robertson that an excellent medium for the establishment of an antigen would be the brain of a person, that might be so; but there were all sorts of organisms, growing in different situations in the body, which would certainly get an enhanced virulence for the central nervous system. One had only to pass an organism into two or three animals to get this virulence increased. One could almost get specificity established by constantly passing it through one strain of animal. With regard to the brain of the general paralytic, he thought Dr. Ford Robertson began by assuming that his diphtheroid bacillus was in the brains of general paralytics, but when Dr. Robertson recommended to him that because a general paralytic brain gave a specific reaction with general paralytic sera, that meant that the diphtheroid bacillus was there, he would reply that it meant nothing more than that the general paralytic might be the result of one type of infection, and that much was already admitted. He agreed with Dr. Ford Robertson in the point, that general paralysis might be one type of an infection. But one could not argue that because in the brain of a general paralytic the antigen was specific to general paralysis, that the specificity of the antigen depended on any bacterial content. It was a rare thing to find bacteria in the brain of a general paralytic in his experience, which amounted to eighteen *post-mortems*. At the moment he did not recall any other questions which Dr. Ford Robertson alluded to to which he had not replied.

Dr. WINIFRED MUIRHEAD said she desired to refer to her own observations in

connection with insanity. She had been working at the blood and cerebro-spinal fluid of general paralysis. She always got the blood during the seizure. If necessary an anæsthetic was given when obtaining the cerebro-spinal fluid, and that also was obtained during the seizure. In twenty-five cases of general paralysis ante-mortem, she isolated a diphtheroid organism from the blood in eight cases, or 32 per cent. In three of the same cases she got the diphtheroid bacillus in the cerebro-spinal fluid, or 12 per cent. In three of the eight cases she reduplicated her results twice from the blood, and in one case three times from the blood. *Post-mortem*, in twenty-seven cases of general paralysis, in eight, or 29.6 per cent., she got an identical diphtheroid bacillus from the cerebro-spinal fluid in pure culture; in one case of these only from the blood in pure culture. Fifteen of these twenty-seven cases were examined also during life, five being positive to that special type of diphtheroid, and in one of these five cases, *post-mortem*, she did not get this diphtheroid type at all, but a coarsely growing diphtheroid, which was associated with another bacillus. It was not a pure incubation from the cerebro-spinal fluid. To summarise, out of fifty-two cases of general paralysis, ante-mortem and *post-mortem*, she isolated an identical diphtheroid in sixteen, or 30.7 per cent. Five of those general paralytics were females, and in only one did she succeed in isolating that or any organism from the blood and cerebro-spinal fluid. It was the organism under discussion, and was obtained *post-mortem* from the cerebro-spinal fluid in pure culture. She was pregnant, and was confined at eight months. The child lived only a few hours, and showed no signs of congenital syphilis. There was no invasion of organisms in the child, and microscopical sections showed an ordinary typical fetal brain. The appearances, both microscopical and macroscopical, of the mother were typically those of general paralysis. She had twenty-nine controls of other types of insanity. She isolated the identical bacillus from the blood in seven out of twenty cases of acute delirious insanity, and those patients were all extremely ill; one came in almost moribund. One was post-rheumatic; a child, æt. 16, who was sent to them from another infirmary while delirious, and who had marked chorea. It was not thought that the child would live more than a few hours. Blood was withdrawn immediately, and in that blood the organisms were mixed; the type of diphtheroid organism under discussion, and a delicately growing coccus, which she lost before she could cultivate; she thought it might be the *Micrococcus rheumaticus*. Of the seven cases of delirious insanity only one died, and in that case a *post-mortem* was not allowed; that is, from twenty cases of extremely acute delirious insanity, in seven, from the blood withdrawn shortly after admission when the patients were acutely ill, with a temperature above normal in some cases and subnormal in others, and with a rapid pulse, she got the identical diphtheroid which she isolated in general paralysis of the insane during a seizure. One of the twenty-nine cases was that of a man about fifty-five to sixty years of age, who was clinically like a case of general paralysis, and was diagnosed as such. He was restless and going downhill rapidly; he also had delusions, etc. He was too restless to permit of lumbar puncture being done, except under an anæsthetic. When it was performed there was a tremendous excess of pressure, which was accounted for by the fact that he was a man with a high-tension pulse and thickened arteries, but there was no lymphocytosis in the cerebro-spinal fluid, and it did not respond to any of the chemical tests for general paralysis. She was not doing the Wasserman reaction at that time. From that man's blood, taken at the same time, she got a streptothrix—a delicately growing one. Three months later he developed hæmatoma auris, and she isolated a streptothrix from this fluid associated with Hoffmann's diphtheroid. That man died six months later, and from the cerebro-spinal fluid, in pure culture, she got a streptothrix. It was interesting to have obtained the streptothrix three times. With regard to the opsonic index her results in that respect had been very variable. The vaccine treatment of the general paralytics, from whom she had isolated the organism, with their own organism gave no result; no apparent improvement occurred in the patient. And even the opsonic index she was not satisfied with; it was not such a clearly-defined index as with the staphylococcus and streptococcus. One very interesting thing about the vaccines was that in one case, a general paralytic, she used a very large dose of his own vaccine. The man became acutely excited, and had a marked rise of temperature; he was very dirty in his habits, and

altogether very confused, and went rapidly downhill. He recovered quickly. The pathogenicity was very slight. Out of thirteen different strains of that type of bacillus she found five strains slightly pathogenic to mice; never to guinea-pigs or to rabbits. In the first case in which she recovered it she inoculated the blood directly into two mice, and six days later she killed one of the mice and recovered the organism from the spleen. A fortnight later the other mouse died, with paralysis on one side of the body. The conclusion she had formed was that this diphtheroid bacillus was not the cause of general paralysis of the insane and delirious insanity. The incidence of syphilis could not be ignored in general paralysis, but in delirious insanity it was a negligible quantity. If syphilis had the power to determine the characteristic symptoms present in no other type of insanity, one must assign the predisposing cause in general paralysis a far more important rôle than the diphtheroids, if one assumed that they were a cause of general paralysis. The secondary conclusion at which she had arrived was that it must be determined whether it was an aggravating concomitant or of no importance. In the case of the child with post-rheumatic delirious insanity there was a mixed infection. There was the delicately growing type of coccus, which showed that the resistance of the individual must be very much lowered to have a double invasion like that. Then, also, in the case of excited dementia the man, aged about sixty, rapidly progressed, and there again in the blood there was a streptothrix and a coccus. One was inclined to think from that that the resistance of those patients must be very low, and that in consequence the invasion by organisms of low pathogenicity was fairly easy. One point which might be raised was: Was that diphtheroid any special type of neurotoxin? Why should one be able to get it in delirious insanity and in general paralysis of the insane? Had it some special affinity for the central nervous system? The cases she had referred to were certainly extremely ill, and one died in five weeks. She did not yet know what conclusion to form, whether it was of no importance, or whether it was important. But, as far as she had gone, she did not feel justified in saying it was a cause of general paralysis of the insane, because it occurred also in another insanity where the patients were just as acutely ill as the general paralytics.

Dr. McRAE said he had listened very carefully to Dr. Williamson's paper, and he was intensely interested in it. He did not feel prepared at the moment to criticise it, but he felt it was only right to refer to one point of great importance in the work of Dr. Ford Robertson and himself. Whenever the serum was found to give no reaction in general paralytics, they examined their organism and found it was not virulent. Immediately they recovered the organism in virulent form as tested on mice, reactions after injection occurred once more clinically.

Dr. WILLIAMSON replied that their virulence referred only to mice, and Drs. Robertson and McRae drew from that the conclusion that because a serum was of no avail before the virulence was raised, that this virulence to mice meant a virulence to the human body.

Dr. FORD ROBERTSON said it was not considered unjustifiable in immunising horses to produce a diphtheria serum, so why should it be considered unjustifiable in their case? The two cases were exactly parallel. One would not think of using a strain of diphtheria bacillus which would not kill a guinea-pig.

Dr. WILLIAMSON replied: One of the organisms used in the Lister Institute to produce serum was one of low pathogenicity to guinea-pigs, yet it could produce such a degree of disturbance in the horse as to justify its use. The serum had a high protective power against virulent diphtheria in guinea-pigs.

Dr. FORD ROBERTSON said that represented an advance which he was not aware of.

Dr. McRAE said that by the use of that serum, which they believed to have a potency because virulent organisms had been passed through the sheep, they considered they did reproduce or exaggerate the symptoms of general paralysis. That was controlled by several cases by using anti-streptococcic and anti-diphtheritic and other sera, but they had no effect at all, either in producing an exacerbation, or in lowering any temperature which already existed. With regard to Dr. Muirhead's cases of acute delirious mania, he did not think all were so positive in diagnosing general paralysis. He did not think one could exclude those acute delirious manias from the possibility of general paralysis. Acute delirious conditions were met with in general paralysis. Advanced cases sometimes came into the asylum

which died in a few weeks. He did not think it was always easy to exclude general paralysis.

Dr. MUIRHEAD said that of the cases of delirious insanity from which she isolated the organism, lumbar puncture was performed in all, but leucocytosis was not found in any; neither did any of them give the chemical tests or Wasserman. Several of the cases were comparatively young women, most of them being under twenty.

Dr. McRAE rejoined that he had had cases die of general paralysis under twenty years of age.

Dr. WILLIAMSON, in further reply on the discussion, desired to thank all who had spoken for the spirit in which they had received his work which was set out in the paper. He thought the best thing to do was simply to say he left the paper on the table. He did not think he could adequately sum up the various arguments which had been used. Dr. Ford Robertson and he had not agreed with one another, but he would like to state that in the position in which Dr. Ford Robertson had put the *Bacillus paralyticus* he, Dr. Williamson, put secondary infections, with all and every organism which could be pathogenic to man. And if one went on searching through the insane, or through any individuals whose bodies were not healthy, it would be found that both the fauces and all the natural channels could acquire bacterial flora which were not present in the normal condition. And the patients with general paralysis were peculiarly susceptible to bacillary invasion. He still said that, in his opinion, no single organism would fulfil all the conditions required of it in order to give that organism an ætiological significance. But one could find a certain number of diphtheroids in a certain number of general paralytics who would give all the serum responses of immunity and the opsonic index, but in another institution it was not so. For instance, the organism of general paralytics in Wakefield he would call a Gram-negative coccus. He could isolate it with such frequency from various situations, such as the urine and the blood, and in an epidemic of influenza in Wakefield he got that Gram-negative coccus. Therefore he preferred, under the circumstances, to leave the discussion in that way.

The Cerebro-spinal Fluid in General Paralysis and the Nervous Lues. By GEO. SCOTT WILLIAMSON, L.R.C.P. & S. Edin., Pathologist to the West Riding Asylum, Wakefield.

I WISH to lay before you the results of an examination of the cerebro-spinal fluid in general paralysis and the nervous lues compared with insanities of almost every type, with a few cases of organic disease other than brain disease, and with ten normal fluids. The most serious difficulty met with in obtaining fluid by lumbar puncture with a view to chemical analysis is the admixture of blood. I may mention that in no instance have I seen any ill-effects on a patient from the withdrawal of the fluid; nor have I noticed any abatement in the acute conditions of general paralysis. The investigation has included the detection of albumose, nucleo-protein, and cholin; the

reactions, according to Wasserman, Noguchi, Porges-Meier, associated with syphilis ; and an estimation of the cell content, specific gravity, and the reduction of Fehling solution.

In the detection of proteins Mott and Halliburton's technique was strictly adhered to. The cell count was made from a centrifuge deposit of 10 c.c., and is expressed in cells per field of 400 magnification. Coriat's method was found most satisfactory for the detection of cholin. The crystals were confirmed by excluding potassium and neurin and by their solubility in water.

There have been many recent publications dealing with the application of the Bordet-Gengou reaction according to the method devised by Wassermann and others in relation to syphilis, and bearing out the original statement of Wasserman and his pupils as to its value in detecting syphilitic infection.

The method used in this investigation is an adaptation of Ledingham's modification. This depends upon the apparent identity of the thermolabile opsonin content of blood-serum with Ehrlich's complement. The details are as follows : The suspected fluid is decomplexed, diluted, mixed with syphilitic organ extract and fresh sheep's serum, and incubated for one to two hours. This mixture is used as an opsonic serum, and its power of exciting phagocytosis is compared with (a) normal sheep's serum, (b) a similar mixture without the organ extract, and (c) the decomplexed suspected fluid alone, sheep's leucocytes being used. Human leucocytes may also be used with appropriate controls. The reaction is taken as positive when the complement (opsonin) is bound in the presence, but not in the absence, of organ extracts. Ballner and Decastello have shown the importance of Control *b*. Three instances of the autotropic reaction of Ballner and Decastello were encountered in two cases of pneumonia and one of acute miliary tuberculosis. The method obviates the use of animals and inoculation, and is, moreover, more expedient. The serum and leucocytes are obtained from the slaughter-house, the blood being collected in two vessels as it flows from the neck of the sheep. One vessel contains a few c.c. of sodium citrate solution. This citrated blood provides the leucocytes, whilst that in the other vessel, which is allowed to clot spontaneously, provides the serum.

The suspected cerebro-spinal fluid or blood-serum can be

kept unaltered for months in sealed glass capsules, if stood in a cool, dark place. A dilution of 1 in 3 is usually sufficient to rule out any phagocytosis from the thermostabile opsonin. In my experience the absence of phagocytosis is a much more striking phenomenon than the absence of hæmolysis, and, further, hæmolysis can be produced by cholin and potassium salts, but whether or not in the percentage solution of cerebro-spinal fluid I cannot yet state.

The Wasserman-Neisser-Brucke reaction is said to depend upon the presence of an excess of protein. Noguchi and others claim to have identified an euglobulin, which either gives the reaction itself or has linked to its molecule the immune body. This globulin may be demonstrated by mixing two parts of cerebro-spinal fluid of general paralysis with five parts of 10 *per cent.* butyric acid in normal saline, heating to boiling and adding one part of normal sodium hydrate and again bringing to the boil; a coarse precipitate indicates a positive reaction. Saturated solution of ammonium sulphate may also be used. A few c.c. of the fluid are allowed to flow gently on the surface of some ammonium sulphate solution contained in a flat-bottomed tube fitted into the central opening of a microscope stage. A beam of light is reflected up through the tube by means of the sub-stage mirror, when a faint ring detected against a black background indicates the presence of globulin.

It has been further demonstrated that the syphilitic organ extract may yield substances of a fatty nature and bile-salts, and that these can combine with the immune body, the resulting product being insoluble. Porges and Meier use a freshly made 1 *per cent.* solution of sodium glycocholate (Merck) to demonstrate this reaction. The precipitate is usually finer and more difficult to detect than that of Noguchi.

We now pass to a consideration of the results from the application of the above detailed methods.

The specific gravity of the normal cerebro-spinal fluid varies between 1003 and 1006. Two out of ten normal fluids in my series had a specific gravity of 1009. Of thirty-four cases of nervous lues only nine had a low specific gravity, whereas in twenty-two insanities only seven had a high specific gravity, and these were divided between epileptic insanity and acute mania. The total protein content of the cerebro-spinal fluid seems to be a factor associated with this high specific gravity,

in general paralysis and other insanities. The increase of proteins is not directly constant with rise of gravity, indicating, no doubt, that the salt content is as important as the protein; and from a comparison of the specific gravity and the protein content (see quantitative table), there is no obvious relation

Specific Gravity.

Sp. gr.	General paralysis.	Tabo-paralysis.	Tabes.	Optic atrophy.	Cerebral syphilis.	Syphilis.	Insanity.	Organic disease.	Normal.	Meningitis.
1002-1006	4	2	3	—	2	4	16	3	8	—
1006-1013	18	2	2	1	—	—	7	—	—	6
1016	—	—	—	1	—	—	—	—	—	—

between the salt content and the protein content. The protein content of the fluids of general paralytics is generally high; the amount of this increase is more or less dependent upon the appearance of exacerbation in the course of the disease. This latter fact explains a similar increase associated with acute

Protein other than Globulin.

	General paralysis.	Tabo-paralysis.	Tabes.	Optic atrophy.	Cerebral syphilis.	Syphilis.	Insanity.	Organic disease.	Normal.	Meningitis.
Albumen	9	—	—	—	1	—	3	1	—	—
Albumose	3	—	1	—	—	2	4	1	1	—
Nucleo .	22	2	5	2	1	3	19	3	1	—

mania and epileptic insanity. The protein of cerebro-spinal fluid is for the most part globulin; albumose is occasionally found without, however, any association with any peculiar clinical feature. It is so difficult to obtain a fluid absolutely free from blood that any trace of serum albumen that may be

found is without significance. Using Almen tannic acid test for nucleo-proteid, a positive reaction was obtained in every case of general paralysis in nineteen out of twenty-three insanities and in one normal fluid; I hesitate to call it nucleo-proteid, not having attempted to prove phosphorus.

In the normal fluid a reducing body is constantly found. It

Reducing Body.

Fehling solution.	General paralysis.	Tabo. paralysis.	Tabes.	Optic atrophy.	Cerebral syphilis.	Syphilis.	Insanity.	Organic disease.	Normal.	Meningitis.
+	8	3	5	2	2	3	22	2	10	—
—	14	1	—	—	—	3	3	1	—	—

reduces Fehling, but does not give crystals with phenal hydrazin nor reduce Nylander's solution. It is certainly not glucose and bears little resemblance to any carbohydrate. Halliburton considers it allied to pyrocatechin. It does not, however, give the reactions typical of this body. In most of its features it is identical with glucosamin, the reducing body

Cholin.

Crystals.	General paralysis.	Tabo. paralysis.	Tabes.	Optic atrophy.	Cerebral syphilis.	Syphilis.	Insanity.	Organic disease.	Normal.	Meningitis.
+	12	1	3	2	3	3	7	1	—	2
—	4	3	2	—	—	3	16	2	10	3

of mucin. Fehling solution was not reduced by fifteen of twenty-three fluids from general paralysis, three of twenty-five from other insanities, three of six cases of syphilis and one of pernicious anæmia. In general paralysis the reaction is as constantly absent in the early as in the late stages.

Cholin is said to be one of the products of nerve-disintegra-

tion, and it was hoped at one time to thus distinguish the functional and organic brain diseases. It is to be regarded, however, rather as a product of pervert metabolism, due to an acute disturbance, functional or organic, than to the result of any specific toxic interaction. Cholin is never present in normal fluids though I have found it *post mortem* in cases of protracted

Cell-Count.

	General paralysis.	Tabo- paralysis.	Tabes.	Optic atrophy.	Cerebral syphilis.	Syphilis.	Insanity.	Organic disease.	Normal.	Meningitis.
20-40	3	1	4	—	2	5	18	2	10	—
60-100	12	1	1	2	—	1	1	—	—	—
100-400	7	1	—	—	—	—	5	—	—	—

marasmus, *e.g.*, in cancer and phthisis. The frequency of its presence is given in the foregoing table, entitled "Cholin."

In two cases of convulsions associated with hydrocephalus, the proportion of cholin in the ventricular fluid was high in comparison with the spinal fluid. In one case of temporo-

Wasserman-Neisser-Brucke Reaction.

	General paralysis.	Tabo- paralysis.	Tabes.	Optic atrophy.	Cerebral syphilis.	Syphilis.	Insanity.	Organic disease.	Normal.	Meningitis.
+	19	2	4	—	3	1	—	1	—	—
—	3	2	1	2	1	5	22	2	8	—

sphenoidal abscess the pus contained cholin. The quantitative table gives the percentage quantities of cholin in various fluids. It will be seen that general paralysis gives no more definite increase than other insanities in which cholin is found.

In the nervous lues the cell-count is generally high. The cells are of the lymphocyte type and do not give any of the

peculiar staining reaction of mast-cells with Pappenheimer's and Mallory's stains. As a general rule the cells are increased in those conditions in which the proteid content is high. Six cases of insanity divided between epileptic and acute mania gave a high cell-count.

In general paralysis nineteen fluids gave a positive reaction and three a negative reaction. Of these three, two gave a positive reaction using the blood in place of cerebro-spinal fluid. In the other case there was some doubt about the diagnosis of general paralysis of the insane. The cerebro-spinal fluid in this case contained cholin, gave a large cell-count, 70 *per cent.* of which were polymorphonuclears, and a negative bacteriological examination. The tabo-paralytic fluids yield two negative and two positive results; an examination of the blood gave

Noguchi.

Precipitate.	General paralysis.	Tabo-paralysis.	Tabes.	Optic atrophy.	Cerebral syphilis.	Syphilis.	Insanity.	Organic disease.	Normal.	Meningitis.
+	20	2	4	—	3	2	—	1	—	—
—	2	2	1	2	—	4	22	2	10	—

three positives and one negative. The tabes dorsalis fluids gave four positives and one negative; the blood was positive in all. The cerebro-spinal fluid and blood gave a negative result in two cases of primary optic atrophy. One case of cerebral syphilis, two of cerebral gummata, and one of meningeal syphilis gave a positive result. Six cases of syphilis, all positive in the blood, gave one positive and five negative in the cerebro-spinal fluid.

One other positive result was encountered in a case, diagnosed from the blood-picture as pernicious anæmia, which improved on adding mercury to the arsenical mixture with which she was being treated. Fluid from eight normal persons, twenty-two cases of insanity other than general paralysis and two cases of valvular heart disease gave a negative result. Three of these fluids gave an auto-tropic reaction, as established by the Ballner and Decastella control.

The same fluids submitted to the Noguchi method gave identical results. In general paralysis two cases gave a negative result; one of these gave a positive result from the blood-serum, the other was the case mentioned above as giving a negative Wasserman and as containing polymorphs in the cerebro-spinal fluid. The fluid giving a negative Wasserman and positive Noguchi gave a positive Wasserman on the blood. The Porges-Meier reaction was negative with one fluid that was positive to both Wasserman and Noguchi, and was negative in the three cases in which Wasserman was negative in the cerebro-spinal fluid. Porges-Meier gave no result with the blood in these cases, thus differing from Wasserman and Noguchi in two cases of general paralysis. One case of

Porges-Meier.

Precipitate.	General paralysis.	Tabo-paralysis.	Tabes.	Optic atrophy.	Cerebral syphilis.	Syphilis.	Insanity.	Organic disease.	Normal.	Meningitis.
+	18	—	1	—	2	—	—	—	—	—
—	4	—	—	2	1	—	18	—	5	—

cerebral syphilis gave a negative result. With these exceptions Noguchi and Porges-Meier confirmed Wasserman in both negative and positive results throughout. The Noguchi is the simpler and more satisfactory method, and the facts above established make it advisable in all future investigations of the Wasserman reaction to include a test after this method.

Conclusions.

Considering the chemical analysis there appears little of any definite diagnostic value. Any increase in proteid or cell content, the appearance of cholin and the disappearance of a reducing body are evidence of a general rather than a specific disturbance, and may occur in any or all of the conditions of excitements. The most that can be said is that a sequence of these abnormalities may be more uniformly present in general paralysis of the insane than in other insanities.

	General paralysis.	Tabo- paralysis.	Tabs.	Cerebral gumma.	Meningeal syphilis.	Primary syphilis.	Epileptic insanity.	Acute mania.	Recent melancholia.	Dementia præcox.	Chronic mania.	Secondary dementia.	Primary optic atrophy.	Pernicious anaemia.	Valvular heart disease.	Normal.
Sp. gr. . .	4	2	3	2	1	4	1	—	2	2	3	8	2	1	2	8
Fehling . .	18	2	2	2	1	6	3	4	2	2	3	8	2	—	2	2
Cholin . .	14	1	5	2	—	—	1	4	—	2	—	—	2	1	—	10
Protein . .	12	1	3	2	1	3	3	1	2	2	3	8	2	1	2	—
Wasserman	22	4	5	2	1	—	4	4	2	2	3	8	—	1	2	10
Neisser	9	—	—	1	1	2	1	1	—	2	—	—	—	1	—	10
Brucke	3	2	1	1	1	3	3	2	1	2	—	—	2	—	—	1
Noguchi	22	2	5	1	1	1	3	—	—	2	—	—	2	1	2	1
Porges-Meier . .	19	2	4	2	1	5	—	4	2	2	2	8	2	—	2	8
	3	2	1	2	—	2	—	—	—	2	2	—	2	1	2	10
	20	2	4	1	1	4	4	4	2	2	2	8	2	—	2	5
	18	—	1	2	—	—	—	—	—	—	—	—	—	—	—	—
	4	—	—	—	1	—	1	3	2	2	2	8	2	—	—	—

The Wasserman reaction appears to be an almost constant feature of general paralysis. The Noguchi modification of the Wasserman may be recommended as a simple procedure, and of importance as being almost a diagnostic feature of the cerebro-spinal fluid of general paralysis.

It has been more or less conclusively proven that Wasserman's reaction is invariably associated with syphilis, and further, evidence is gradually accumulating which goes to prove that disease due to infective agents other than the *Treponema pallida*, the trypanosoma, and perhaps the malarial parasite are not associated with this reaction. If, then, it be allowed, these diseases being excluded, that a positive Wasserman means syphilis, we have the fact established that general paralysis is an affection almost invariably associated with syphilis. This, of course, does not warrant any dogmatic statement as to cause and effect, but it does necessitate taking this fact into account in seeking to establish any infection other than syphilis as a cause of general paralysis.

Quantitative Table

General paralysis :

Sp. gr.	Per cent. globulin.	Per cent. cholin.
1007 .	0.038 .	0.028
1009 .	0.038 .	—
1007 .	0.063 .	0.009
1009 .	0.074 .	0.011
1011 .	0.076 .	—
1007 .	0.078 .	0.0098
1010 .	0.089 .	0.037
1010 .	0.13 .	—
1011 .	0.17 .	0.028
1009 .	0.22 .	—
1013 .	0.38 .	—
1010 .	0.41 .	—

Epileptic insanity :

1009 .	0.033 .	0.001
1006 .	0.075 .	0.046
1008 .	0.187 .	—
1003 .	— .	0.010

Acute mania :

Sp. gr.	Per cent. globulin.	Per cent. cholin.
1010 .	0.029 .	0.0097
1008 .	0.083 .	0.010
1011 .	0.222 .	—
1011 .	0.178 .	0.23
— .	— .	0.017

Secondary dementia :

1002 .	.007 .	—
1003 .	.009 .	—
1003 .	.011 .	—
1003 .	.013 .	—
1002 .	.015 .	—
— .	.010 .	—
1004 .	.013 .	—

This paper may be taken as a preliminary note to an extended inquiry into the association of the syphilitic reaction and general paralysis, particularly as to the stage of the infection, whether latent or acute, primary, secondary or tertiary.

DISCUSSION,

At the Annual Meeting held at Wakefield, July, 1909.

The PRESIDENT said the paper was an extremely valuable one, and ought to give rise to an interesting discussion. He thought he could not do better than call upon those bio-chemical students whom he saw in the room. All would appreciate the enormous amount of work which was required for making those observations, the Wasserman reaction in particular. They also appreciated another fact, which made the future very hopeful, namely, that in the simple Noguchi test there was a test which could and should be used universally in their institutions; it should be used for simple diagnostic purposes. Many might refrain from it for fear of after-effects; but in no case had there been ill-effects from spinal puncture, and he supposed there was nothing to be dreaded from interference on the part of the patient's friends. That would not be the case in the larger institutions, but in the smaller ones it might be regarded as deterrent. The Noguchi test, however, was simple of application, which was an encouragement for its general adoption.

Dr. Rows said the Wasserman reaction had now become a popular subject of investigation. There were a large number of men who were working at the subject in various countries, but the investigations were not leading to uniform results. To what extent were we justified in saying that the Wasserman reaction proved the presence of syphilis in a patient? According to some authorities absolute proof had not yet been obtained. In this reaction use was made of an alcoholic extract of the liver of a syphilitic fœtus, and if one made an alcoholic extract of such a liver it was necessary to determine what relation it bore to the specific disease. How much importance could be attached to it seeing that no *Spirochæta pallida* were present? It was simply an alcoholic extract, and it had been found that it contained certain bodies, lipoids, which could act as the antigens in the Wasserman reaction. On the other hand, an alcoholic extract of the cerebro-spinal fluid could act as the antibody in the reaction. These two alcoholic extracts,

one of the liver and the other of the cerebro-spinal fluid, could be employed and the reaction obtained with them, but how did that prove the presence of syphilis? Pighini, of Modena, had written a paper on the subject, and he stated that the reaction could be obtained in cases where there was no syphilis, in fact, it could be obtained if extracts of non-pathogenic organs were used. Besides saying that a syphilitic infection was not necessary in order to get the reaction he suggested that the important substance was cholesterin. Cholesterin, as Dr. Williamson had said, was not present in the cerebro-spinal fluid under normal conditions, but it was present wherever there was marked degeneration of nerve-tissue. Pighini had tried the reaction in cases in which marked degeneration of nerve-tissue was going on, *e.g.*, in cases of dementia præcox when they were in the active stage. The Wasserman reaction could be obtained in a considerable number of those cases, but not in cases which were in the quiescent stage. Those results corresponded closely with the results obtained in general paralysis; the Wasserman reaction failed during the early stages of general paralysis when there was only a small amount of destruction of nerve-tissue, but it succeeded in the later stages of general paralysis when there was much destruction of nerve-tissue. Similar results were obtained by him in epileptics. He found that the reaction failed in epileptics in whom the attacks were of rare occurrence, but it succeeded in those who were having a large number of fits—three or four each day. In these cases there would of course be considerable degeneration of nerve-tissue. Pighini also noticed a very important fact in regard to the cerebro-spinal fluid. He found that cholesterin was not present in this fluid during the early stages of general paralysis, but it was present in the later stages. Similarly it was not present during the stage of remission in cases of dementia præcox, but it was found in the active stage. For these reasons Dr. Rows said he did not consider it was yet possible to state positively what was its real value in the diagnosis of general paralysis. The importance of the method and the fact that it should be employed would be obvious to everyone, but he considered that the method had been in use for too short a period, and too little work had been done in the direction of taking care that all fallacies were being excluded to enable one to say definitely that the reaction was positively diagnostic of syphilis or general paralysis.

Dr. ORR said he had listened with great pleasure to Dr. Williamson's paper. Many papers had appeared, from January onwards, on the subject of the Wasserman reaction, and he shared the opinion of Dr. Rows that at present their attitude towards the Wasserman reaction, and the value which we ought to attach to it, should be rather expectant. Nevertheless the more work done in reference to it the better, and the sooner would what he regarded as the fallacies be exploded. He thought the Association should feel greatly indebted to Dr. Williamson for taking up the question and working at it so thoroughly. There were interesting questions in regard to the cerebro-spinal fluid, and one which had always struck him as of the utmost importance in connection with the ætiology of cerebral diseases was the reason why micro-organisms ceased to live in cerebro-spinal fluid shortly after their introduction. Perhaps one reason why they did not grow in that fluid was the absence of cholesterin normally. Or was there something in the fluid of an antagonistic nature possibly secreted by the neuroglia, which killed them off? It was a very important point, and he would be glad if Dr. Williamson could, in his reply, give a hint on the subject. He wished to express great appreciation of his work. He had gone over his work with him at Wakefield last evening, and the pathologists of the north were very glad to have him with them, and he hoped they might have an opportunity of all working together.

Dr. McRAE desired to associate himself with Dr. Orr in his appreciation of Dr. Williamson's work. He felt that it was only by such work that they could hope to keep up the enthusiasm for research in asylums. He thought Dr. Williamson's paper ought to be a stimulus to all the younger men to keep at it. One point he did not quite catch, and he would be glad of further elucidation. He believed Dr. Williamson made the interesting statement that he regarded phagocytosis more important than the Wasserman reaction.

Dr. WILLIAMSON, replying on this point, said it was a phenomenon which could be taken as analogous to chemical reaction; one used phagocytosis as an indicator, just as one used litmus paper to detect acid or alkali, as the case might be. The tests used were two—the hæmolytic factor and the opsonic factor. He preferred

to use, as the indicator, the phagocytic opsonin in preference to the hæmolytic factor, believing that it gave him sharper results.

Dr. McRAE, continuing, said he wondered whether that was because the condition was essentially vital, as compared with merely a chemical reaction, and he thought it was most interesting. The opsonic index was more of a vital nature than a chemical change the result of degeneration, which Dr. Orr and Dr. Rows referred to in relation to cholesterin. With regard to the President's hint as to the need of being careful in lumbar puncture of private patients, he had heard it described as a surgical operation, and might by relatives be considered unjustifiable. But he believed it was easy to persuade relatives that in testing the cerebro-spinal fluid in nervous cases the physician was trying to eliminate from the diagnosis several of the most dreaded diseases with which one had to deal, and that therefore the procedure was quite justifiable under proper antiseptic precautions.

Dr. GILMOUR said he had several times been asked by patients who came for examination whether lumbar puncture would be performed. His own view was that the procedure was becoming fashionable.

Dr. WILLIAMSON, in reply, thanked those present for their criticism; it was what pathologists and scientists generally valued more than anything else, whether the results brought forward were right or wrong. It was difficult to reply to Dr. Rows with regard to the value of the Wasserman reaction. The original publication of Wasserman and his pupils gave 1,000 cases in which it had been tried and completely controlled. Wasserman used fifteen controls in making up his test, and every conceivable scope of error was ruled out. He took, first of all, his constituents of his extract, and he could show that while an alcoholic extract might take out certain lipid bodies, the majority of those bodies were not extracted by normal salt solution, and the extract of normal saline of the liver, which had been carefully filtered, gave the Wasserman reaction. So certain lipid bodies were ruled out, but not all. There were others which had not a soluble form—colloidal solutions. They could only accept a multitude of data with regard to the value of the Wasserman, and until they had got something extending into many thousands of observations on syphilis and every other form of disease, they could put no absolute reliance on it. But he maintained there was already sufficient evidence of that. If the right controls were used it was very rare to find Wasserman reaction in other conditions. With regard to Dr. Rows' suggestion that the cholesterin might have something to do with it, certainly if one used the hæmolytic test, because the cholesterin could hæmolyse the red blood-corpuscles. That was one of the main reasons he had for adopting the principle of using as an indicator the phagocytic index. One could get lysis of the red cells by the cerebro-spinal fluid alone. In seven out of twenty-three cases of insanity in which cholin was found in abundance he did not get the Wasserman reaction. The cholin could be ruled out as a factor in the Wasserman reaction. The cholin had the power of bacteriolysis. A solution of cholin would produce the phenomena which Dr. Ford Robertson and Dr. McRae called attention to in the cerebro-spinal fluid, namely, the bacteriolysis. And the cerebro-spinal fluids which contained the cholin alone had that effect—he was speaking of the lysis of coliform organisms. The bacteriolysis depended on that cholin content. In the cerebro-spinal fluids of epileptics one got a large proportion of cholin; and occasionally one got a case of epilepsy with an autotropic reaction, which could be ruled out. The cerebro-spinal fluid and the blood of the epileptic seemed to contain something acting as an immune body, to link up with the antigen and bind the complement. He thought Dr. McRae did not understand the method used. As an antigen he used a solution in normal saline of pounded foetal liver, and controlled that with normal organs—heart and liver. And he had recently controlled it with normal brain extract. The antigen obtained from the liver was mixed with the suspected serum, and if there was an immune body to syphilis in that serum the antigen combined with the immune body, and that combination could bind the complement. If that complement was abstracted from a serum that serum could not induce phagocytosis. The staphylococcus was the organism he used, just as in doing the opsonic determination, and having mixed and incubated it, one took one's own serum and other controls, of which he had twenty-two, and did it the same as the opsonic index—took some serum and blood-corpuscles and emulsion of bacteria; and if the complement had been bound there was no phagocytosis; the leucocytes were so

numerous that they could not be counted, and in the positive result not a single coccus was ingested. He had tried to meet the arguments which had been brought forward, but there were many others which arose, though they would occupy too much of the time of the meeting.

The PRESIDENT said the meeting was greatly indebted to Dr. Williamson for his very valuable paper. Many members, especially those as old as himself, would study it very intently when it appeared in the Journal. One could scarcely follow the details properly during the rapid reading, but it had elicited an extremely interesting discussion, and members would join in thanking him very warmly for what he had done.

The Mental Symptoms in Cases of Exophthalmic Goitre and Their Treatment. By JOHN R. GILMOUR, M.B., Medical Superintendent, West Riding Asylum, Scalebor Park.

CHANGES in the mental condition of the patient are frequently to be recognised as one of the earliest symptoms of exophthalmic goitre. These mental changes may be present before the cardiac or ocular symptoms have been established and before the changes in the thyroid have been observed. The most common feature is an intense and indefinable agitation leading to a more or less marked motor and mental restlessness, which causes the patient to look for constant change in her surroundings and work. There is an inability to settle long to any one occupation or recreation. Work begun with a feeling of relief at the change involved soon becomes irksome, is then done only with an effort, and with the cumulative feeling of effort and concentration required soon causes distress and the work is laid aside. Any sudden noise, any unexpected news, any of the ordinary disturbing elements of everyday life may be followed by an attack of palpitation lasting some hours, and yet, in spite of this, there is an imperative desire to keep moving; to go where such incidents may be experienced. Dr. Geo. Murray, in the Bradshaw Lecture of 1905, states that he has not noticed this craving for entertainment. It seems to be entirely a question of degree. If the stimulus is moderate there may be pleasure in its fulfilment; if more marked it may pass into an apprehensive dread with inhibition of this desire.

The patients are frequently emotional, ranging from grave to gay, from marked depression to joyous buoyancy, without

any adequate reason. There is occasionally volubility, with what Sir Russell Reynolds calls a "chorea of ideas." A shy, retiring young woman may have an easy flow of language and a considerable mobility of ideas.

Insomnia is frequently distressing, dreams of disagreeable character render sleep fitful, disturbed and unrefreshing, and there may be vivid hallucinations at the point of waking. Some patients become very irritable, irascible, suspicious, untruthful, and occasionally spiteful and malicious. Certain cases may go through a prolonged attack with only the minor alterations in the mental state which are generally associated with any prolonged invalidism, but some evidence of the mental and motor restlessness is generally present.

The patients may be conscious of these changes and complain of them, but generally they resent any interference or correction and the symptoms are related by the friends.

It is of interest to note that Dr. Graves mentions a hysterical state as being not uncommon where the thyroid is affected, and one of his early cases of exophthalmic goitre was so diagnosed.

The two following cases are examples of the usual mental symptoms in a very exaggerated degree.

CASE 1.—A young woman, æt. 22, unmarried. Previously healthy and of good family history, was brought to me complaining of severe recurrent headache and nervousness. There was also inability to settle to any regular work or pastime. She had an excellent voice and was accustomed to sing as soloist at large choral societies and concerts, and had never been unduly nervous when so doing. She stated that at a concert three weeks previously she was very tremulous, so much so as to be unable to hold her copy of the music steady and she had had to dispense with it; also that she had difficulty in sustaining a high note from palpitation. A few days later she was with her mother at a large garden party when she lost her in the crowd. This upset her very much and she had an attack of palpitation lasting some hours. On examination the patient was very well nourished. There was slight exophthalmos, with delay in descent of lids; slight prominence of the thyroid gland; a pulse-rate of 110; fine tremors of practically all the muscles of the body; a slight erythematous

skin condition. Menstruation was irregular in time and profuse in amount. Exophthalmic goitre was diagnosed and the patient put to bed in the open air. The headaches improved and the patient was able to rest well, but the pulse-rate continued about 110. Three weeks later she suddenly developed very acute hallucinations at night. She would sleep for about two hours, and would waken at midnight calling out that someone had touched her, that burglars were in the room and crawling about the floor, that faces were looking in at the windows, that people were talking about her outside and that lights had been flashed into the room. On one occasion she rushed from the room and was found in a very frightened and terrified state in the hall downstairs, having no idea how she came to be there. During these attacks the pulse-rate rose to as high as 160 per minute. Next day she had a vivid recollection of these ideas, but was able to correct the erroneous impressions. Bromide of potassium (gr. xv) and tincture of belladonna (m x) were given three times a day. Under this treatment the pulse-rate dropped to 98, and the hallucinatory periods were less marked. The headaches continued to cause much discomfort, and aspirin (gr. xx), three times a day, was substituted, with a dose of bromide at night only. Improvement at once set in. The appetite returned and the pulse-rate gradually fell. As sleep was still very poor she was allowed up each day, and graduated hill-climbing was then tried with benefit. The headaches were very occasional and controlled by the salicylates. She recovered completely in about four months, and has remained well since, now over a year.

CASE 2.—The second case is that of a lady, æt. 47, unmarried. She has suffered from exophthalmic goitre for over twenty years. She is thin and spare in build. There is marked exophthalmos affecting especially the left eye. There is a hard, almost fibrotic goitre, the left lobe being as large as a hazel-nut. Tremors of the hands and fingers especially. A slight degree of anæmia. Occasional attacks of diarrhœa. This patient has repeatedly an intense desire for change: she will go off without any previous warning to her relatives, and without any preparation beyond taking a limited amount of clothing in a hand-bag. She will telegraph to her friends for money, and again set off on her wanderings. These attacks

have lasted on an average about ten days, at the end of which time she will return home. They recurred about four times a year. The only point she was able to state was that, when the desire for change was becoming marked, and before it became imperative, an attack of diarrhoea might ward off the condition. A suitable, cheerful, and active companion was obtained, and since this has been arranged the condition has been manageable though still unchanged in character.

The following five cases have been certified as insane and treated at Scalebor Park during the past six years.

CASE 3.—A woman, æt. 45, the wife of a clergyman, was admitted in 1904; she was then stated to have been insane for ten days.

Several years previously, shortly after her marriage, she met with an accident, an omnibus in which she was driving having been overturned. She was not at the time apparently injured, and was able to assist the other passengers who had been hurt. Within a fortnight of this the heart's action became rapid and irregular, and the first symptom noted was that at night the forcible palpitation caused the bed to shake under her. The condition was diagnosed as Graves' disease. The goitre shortly afterwards developed. She became irritable, nervous, excitable, quarrelled regularly with her friends, and was considered peculiar; at one time throwing herself energetically into church work, and as suddenly withdrawing from it. About three years before admission she was found to have cholecystitis and gallstone, and an operation was performed by Mr. Mayo Robson. (Here it may be mentioned that exophthalmic goitre seems to predispose to infective processes.) On several occasions after this she was very suspicious, and regarded her husband with aversion, accusing him of immorality; but these periods quickly passed off, regret generally following at once on utterance. Ten days before admission she became very restless, erotic, excitable, accused her husband of committing adultery and other sexual malpractices. She was very incoherent in talk, and had violently assaulted her nurse. There are two children of the marriage, the eldest, a daughter, being a cretinic idiot. On examination she is a fairly nourished woman, 5 ft 6 in. in height, 120 lb. in weight. The eyes are very prominent. Stellwag's and Von Graefe's symptoms

present, vision normal. The goitre is more marked on the left side, about the size of a tangerine orange. Fine tremors of limb present. Pulse, 95–110 per minute. No heart-murmurs; urine healthy; the menses have ceased. There are hæmic murmurs at the root of neck and over thyroid gland. During the first month after admission she was excitable and emotional, craving for attention and demanding to be noticed. She would dress up her hair with any article she could get. She had many delusions about her husband—said he was unfaithful and immoral. She was very erotic, hugging photographs and kissing her hand to every man she saw, saying she was ready to commit adultery with certain men whom she named. The pulse-rate varied from 95–120. Exophthalmos was marked. Insomnia was also very troublesome, sleep averaging about three hours only each night. During the second, third, and fourth months the mania became more disorganised. She became very rambling and incoherent. She kept up a constant verbigeration, repeating long strings of quite disconnected remarks and single words, in which, however, the old erotic ideas could be traced. She became very faulty in her habits, paying no attention to herself, passing urine and fæces in bed without any notice. She then was filthy in all her actions. Diarrhœa became very troublesome—as many as seven loose motions each day. Sleep averaged only about two and a half hours. She lost weight very rapidly; at the end of the fourth month weighing 89 lb., a loss of 31 lb. since admission. During this period arsenic, strophanthus, digitalis, bromide, iron, and phosphate of soda were all tried without any apparent benefit. The goitre became more marked, and the temperature began to show rises of two or three degrees. She was then put on large doses of quinine and salol, and mercuric iodide was applied locally to the gland. During this treatment improvement suddenly set in, and it was continued. The diarrhœa ceased and she began to regain the lost weight, eating very large meals. The mania became quieter, sleep was more refreshing and gradually increased in amount. Her delusions lessened and disappeared. At the end of the sixth month she had passed to what appeared to be a normal state for exophthalmic goitre, that is, there was the old desire for change and mild restlessness, but she was quite free from any marked impulsiveness, and the mental symptoms

were so improved that she was discharged. She was sent home and has since been able to remain there. I understand that the mental symptoms are of the same type as before this attack of mania developed.

CASE 4.—Woman, typist, æt. 28, unmarried. There is a neurotic family history. She had an attack of exophthalmic goitre at sixteen—at puberty—the symptoms then lasting about twelve months. At eighteen she was so well that she took up typing as an occupation and continued able for this until twenty-one years of age, when the second attack came on. She was stated to have been over-worked, but of this there is no evidence, the worry and strain alleged being probably the first symptoms of inability to settle to the work. The mental condition was first noted in April, 1908, when she had an attack of depression, followed by confusion, then screaming, and a hysteroid seizure. This recurred in July and September, and in October delusions followed, in the course of which she made an abortive attempt to cut her throat, and she was admitted.

On admission.—A thin, nervous-looking woman. There is exophthalmos, more prominent on the left side; Graefe's and Stellwag's signs present. Complains of stiffness of the eyes on convergence. Goitre fairly prominent. There is marked fullness of the neck. The thyroid isthmus is enlarged and the right lobe forms a soft fluctuating mass, about the size of a small orange. The veins of the neck are prominent and the vessels pulsate forcibly. There are hæmic murmurs at the base of the neck and also over the gland. Tachycardia; pulse-rate during quiescence 110–120 per minute. Skin shows profuse perspiration and erythematous patches; urine is healthy; menses irregular in time. Mentally: very excitable. Says she has an apprehensive dread that she is going to be killed or injured, or that her relatives are to be killed. Has acute hallucinations of hearing. Said she was Jesus Christ and had to save the world by her death. During the first month this case was kept in bed and continued in the same state with slight variations. She had many delusions. She had marked apprehensive feelings and doubts about herself and her relations. She thought her head was to be cut off, that her friends had been murdered, that her heart was to be cut out. Sleep averaged about five hours. At the beginning of December she

was put on the Moebius anti-thyroid serum in doses of 5 c.c. daily, and at once improvement began to set in. She began to sleep better, was quieter by day, lost the marked apprehensive dreads, and was comparatively free from delusions. The pulse-rate gradually fell to an average of 95. The goitre diminished in size. The pulsation in the neck ceased, and the bruits over the thyroid disappeared. Towards the end of December the serum was intermitted, and within a fortnight there was a marked recrudescence of all the symptoms. The goitre again became very marked, the bruits returned, and with them the delusions and the dreads became again persistent. She was during this time, treated as actively suicidal, as she desired to cut off her head or to open her heart. She tried to drown herself while having a bath. At the end of January we were able to begin the milk from thyroidless goats, and within a fortnight there was again an improvement. The pulse-rate declined to 88, and the mental symptoms ceased. Accidentally we had to stop the milk for about ten days, and during this time the goitre again became prominent and the symptoms showed signs of returning. During each exacerbation diplopia was present and troublesome. About the third week in February she had the entire milk supply from one goat and rapid improvement set in. The goitre diminished. She became very cheerful, happy and contented. The pulse-rate fell to 64 per minute. The milk supplied amounted to about fifty quarts in eight weeks.

The points of interest in this case are the very marked variations which occurred in the thyroid gland coincident with the use of the anti-thyroid remedies and the accompanying improvement of the mental symptoms. We could trace no connection between the mental condition and the menstrual functions. From the "tidal" variations in the thyroid I strongly recommended a partial thyroidectomy in this case. This advice was received with marked disapproval by her relatives, and shortly thereafter the patient was transferred. On discharge she was well both as regards the mental symptoms and also as regards the exophthalmic goitre. The immediate relapses which followed any cessation of the treatment are also of interest, but the patient had undoubtedly no symptoms on discharge.

CASE 5.—A clergyman, æt. 36, married, one child, healthy.

There is stated to be no heredity. He was admitted in May, 1908; he was a very popular active preacher and had worked very hard building up a new parish. He became peculiar about a year before admission and had to leave his work with symptoms of a neurasthenic character. He returned to work after a prolonged holiday much improved. About a month before his admission he suddenly became dull, depressed, moody and taciturn. He had the delusion that he had had immoral relationships with certain of his parishioners and by a conspiracy this would be proved against him. He had on more than one occasion contemplated suicide and had bought poison for this purpose. He was a well-nourished man.

There is well-marked exophthalmos, both sides almost equally affected. Stellwag's and Graefe's signs present. The thyroid is uniformly enlarged, and has a distinct tense feeling. The pulse-rate is 110 and slightly irregular. Tremors affecting the hands.

On admission he was very agitated and restless. Had marked delusions as before stated. During the first three months there was a considerable degree of improvement. The expression became more placid. He lost the delusions to a great extent and was more cheerful. The pulse-rate fell to about 84.

During this time he was treated by phosphate of soda, by quinine, by arsenic, iron and belladonna with bromides. He suddenly relapsed without any apparent cause, having an acute exacerbation of the hallucinations, and rapidly became both depressed and actively suicidal. He heard voices taunting him with being the father of many illegitimate children. He mistook those about him for detectives watching him. He had very marked dread that magistrates and police were coming for him. This state has recurred at intervals during the past year, though slight improvement has been occasionally manifest. He now has the idea that if he kills someone his case will be inquired into. Often noisy and shouting at nights. He has made three suicidal attempts recently. There has been a diminution in the size of the thyroid; he has been for some weeks on the goats' milk, and though gaining weight has not benefited mentally as yet. The quantity of milk has averaged about a quart daily. (On August 14th, after eight weeks of treatment, he had gained 14 lb. in weight.

The sleep was much improved, averaging seven hours. Mentally he was quieter and more cheerful ; his apprehensions were less marked though still present.)

CASE 6.—Female æt. 39 years, single. There is a marked heredity for alcoholism and eccentricity, also one case of goitre in the family. About three years ago became very dull, depressed and miserable, and was sent to nursing homes and to the country for rest, but never remained long in one place. Improved for a time, but became acutely depressed and suicidal a year ago and was sent in. There was an attack of rheumatic fever in childhood.

On admission : A thin, sparely built, emaciated woman. The heart-sounds are rapid and weak, about 130 per minute, and the first sound has a roughened, short, systolic murmur. There are marked bruits in the neck veins and over the thyroid, which is enlarged. There is a small tumour over the right lobe of the thyroid, hard and almost fibrotic to touch. There is discolouration of the eyelids but no marked exophthalmos. This case was provisionally diagnosed as exophthalmic goitre.

During the first two months little change took place mentally. She was dull, depressed, very talkative, keeping up a constant rambling and very disconnected conversation. "I don't know what is the matter with me; I have done wrong; I have sinned against my sister and all my family, and brought disgrace upon them." During this time tremor became very marked, and exophthalmos developed with retraction of the lids and delay in descent. The tachycardia continued. The diagnosis was undoubted two months after her admission. In November and December last the anti-thyroid serum was begun. She became much quieter and more rational. The rapid speech disappeared, giving place to a condition of mild confusion and doubt.

This serum treatment was stopped in January for some weeks. She became more easily startled, more sleepless, more excitable again, but never was as acutely ill as before the treatment. In March of this year the goats' milk was begun. She gradually improved in appearance, the exophthalmos gradually subsided, the pulse became stronger and quieter, the agitation lessened, and in every respect there was a decided mental improvement. This continued until about six weeks

ago, when she passed into a quiet, confused, slightly stuporose state, in which condition she is now. She will not answer questions, and the expression is vacant. The milk has been stopped and tonics substituted with calcium iodide. There is a marked diminution of the thyroid. The quantity of milk given in the course of treatment was ninety-eight quarts in eighteen weeks. R. Durig, of Munich, records a case in which during the serum treatment there was the occurrence of a short period of apathy with a feeling of mental enfeeblement, which he looked upon as a mildly myxœdematous condition. This quiet, semi-stuporose state may be a similar condition.

CASE 7.—A single woman, æt. 47. There was marked heredity for insanity, a sister and mother having been affected. There is one case of goitre in the family. Patient was a very capable woman for some years, managing a large business for her father. About eighteen months ago she had marked exophthalmos and gradually became very excitable. There was at the time also a history of weak heart's action and palpitation. She was admitted in September, 1908, and was then stated to have been insane for six months. She has had for nine months delusions that people were following her; thought that people were watching the house at night and endeavouring to break into it. She then thought that everyone looking at her was hypnotising her, and that they were endeavouring to get her to injure herself. She believed that under the influence of hypnotic suggestion voices were telling her to cut her throat, and three days before admission she did so, inflicting a moderately severe wound in the neck.

On admission she was a stout, well-nourished woman. There was a marked prominence of the eyes, the left being especially prominent, though the right was also markedly exophthalmic; both Stellwag's and Graefe's signs were marked. There was a small, hard, nodular thyroid about the size of a tangerine orange, which she stated had been becoming smaller for some months. The pulse-rate was 100. The face was somewhat flattened and expressionless and the hands broadened. Hair was scanty.

On admission had marked hallucinations of sight and hearing, heard her father calling to her, saw him near her at nights. She had a dread that she was to be injured, that everyone was

hypnotising her, and would not allow us to examine her eyes for some weeks owing to this delusion.

This patient continued in this mood for several months with a gradual, very slow improvement in the delusions and a lessening of the hallucinations. Six months after admission the exophthalmos was still marked, the goitre was slightly lessened, and the pulse-rate had gradually fallen to about 84 per minute.

During the past six months there has been a gradual improvement of all her symptoms. The delusions have vanished, the hallucinations also have been completely in abeyance. The exophthalmos is much less marked except during any excitement. The thyroid is much smaller. The pulse-rate is 64 per minute, of good wave and regular.

During this time diarrhoea has occasionally been troublesome, but could be controlled by small doses of bromides. The treatment has been occasional courses of medical izal and quinine with hydrobromic acid and also calcium iodide. The patient has given the impression all along of being a case of exophthalmic goitre passing forwards to a more myxœdematous type, and for this reason direct antithyroid treatment has not been tried. She is to be discharged as recovered at the end of July.

There is great variation in the estimates of the number of cases of exophthalmic goitre which pass on to become actually insane. Professor Murray, in his Bradshaw Lecture, states that out of 180 cases 3 became insane, and that 10 others, without any evidence of insanity, had very acute hallucinations. In the article in Allbutt's *System of Medicine*, Dr. Hector Mackenzie states that "in some cases more serious mental changes supervene, the patient has delusions or hallucinations, or gets ideas of persecution, or becomes quite insane. Such cases are usually fatal, but they are not common, for I can recollect one case only which required removal to an asylum." The numerous cases that have been published of recent years show that a certifiable mental state cannot be so uncommon as these writers suppose. The five cases that I have given are taken from 750 admissions in six years at Scalebor Park. Dr. Rogers some years ago published a series of 13 cases of Graves' disease complicated by insanity during the passing of 600 patients through the Milwaukee Sanatorium in a period of a little over five years

There is a well-known regional distribution in all thyroid diseases which will, to some extent, account for the variation in the figures given in different asylums. In nearly all my cases there has been some neuropathic or psychopathic history, and, as Dr. Rogers points out, we must consider the insanity as a further development of the neurasthenic and hysterical conditions observed even in the mildest cases of Graves' disease—the psychosis developing in the more unstable.

Any statement regarding the type of mental disease cannot be founded on the limited number of cases observed, but agitated melancholia and confusional states seem to be the most common.

Formerly the prognosis was regarded as exceedingly serious and unfavourable, but the whole trend of opinion recently has been to regard the outlook as much more hopeful. The prognosis depends rather on the course of the exophthalmic goitre than on the type of mental illness. Improvement and recovery from the mental symptoms frequently take place. The maintenance of nutrition is the main guide. Where the thyroid shows signs of variation and activity the outlook is more favourable than in cases where atrophic or fibrotic changes have taken place.

The treatment must vary greatly in individual cases.

Whenever there is any restless agitation with marked tachycardia rest is of the greatest importance, and this should be taken in bed in the open air. This is generally preferred by the patients. In several cases I have observed that as soon as modified exercise could be taken sleep was benefited, dreaming was less frequent, and sleep more refreshing. As soon, therefore, as the pulse-rate becomes uniform and falls below 90 (or 100 in special cases) the patients are up for some hours each day. In the later stages graduated hill-climbing is introduced as it can be borne.

Of the drugs used the most serviceable in the early cases are undoubtedly the salicylates. In some patients this group seems to have an almost specific action. Sodium salicylate or aceto-salicylic acid in doses of twenty grains three times a day may benefit all the symptoms. Aceto-salicylic acid will generally be found to control the headaches. If pyrexia be present quinine is indicated in moderately large dose (gr. x three times a day) or in combination with the salicylates. In

the more chronic cases the bromides alone or with belladonna are extremely useful, *e.g.*, fifteen grains of potassium bromide and ten minims of tincture of belladonna three times a day frequently caused a considerable quieting of the tachycardia and relief from the restlessness. Diarrhœa, which is often a very trying symptom, can frequently be checked by the bromides.

Strophanthus, *digitalis*, and other cardiac tonics generally have little effect towards reducing the pulse rate. Professor H. J. Campbell, of Leeds, recommends the calcium salts strongly, basing this treatment on the regional distribution of the disease. Iodides are also serviceable in certain cases. I have used a combination as calcium iodide in five-grain doses thrice daily with apparent good in the more advanced conditions. Intestinal antiseptics are also important, and for this salol and medical izal are very valuable.

In regard to what may be called the specific treatment, several substances—thyroidectin, rodagen, and the Moebius antithyroid serum—have recently been introduced. These are all prepared from the serum or milk of animals from which the thyroid has been removed.

I have used the Moebius serum in a few cases with very fair results, the tachycardia diminishing and the restlessness passing off almost completely; sleep also was benefited. The results were transitory, the symptoms returning whenever the treatment was intermitted, showing that there was some relationship between the preparation and the results obtained. Some years ago Lanz treated some cases by the milk of goats from which the thyroid had been removed.

Mr. Walter Edmunds, of London, has introduced this treatment into this country and has published his results in two papers (*Lancet*, January 25th, 1908, and April 10th, 1909). The *rationale* of the treatment may be best understood by quoting two sentences from Mr. Edmund's papers: "It has been thought that a remedy might be found in the serum or milk of thyroidless animals, the idea being that to counteract the thyroid secretion the normal body secretes an antithyroidin, and that in thyroidless animals this antithyroidin would be in excess and available to act as an antidote to the excess of thyroid secretion in Graves' disease," and "as the antibody in milk must be derived from the blood-serum it would seem better to administer the dried serum and corpuscles from a thyroidless

animal. But there is one point in favour of the milk : ordinary cow's milk must contain a certain amount of thyroid secretion, therefore we have either to give this or cut ourselves off from an article of diet valuable for invalids ; the use of milk from thyroidless animals relieves us from this dilemma." Mr. Edmunds very kindly allowed me, early this year, to have four of his goats, and it is from these that I have obtained the milk used in my cases. The results obtained are shown in Cases 5 and 6, where a very considerable improvement followed, and in Case 2 where complete recovery took place.

This treatment should undoubtedly be tried in cases which resist the ordinary drugs. No licence is required either for the operation or for keeping the goats afterwards. The thyroidless animals are more delicate than normal goats, but not to a marked degree, and the operation does not materially shorten the useful life of the animals. The entire milk-supply from one goat should be exclusively used for one patient. There is a practical difficulty in obtaining a constant milk-supply as goats kid generally in spring. In this, as in the serum treatment, there seems to be a necessity for prolonged continuance of the milk, as any intermission in the early stages of the course results in rapid return of the symptoms.

Wherever there is variation or signs of activity in the gland the question of thyroidectomy should be considered with a view to more permanent results, but of this mode of treatment I have no personal experience.

DISCUSSION,

At the Annual Meeting held at Wakefield, July, 1909.

The PRESIDENT said the Association was much indebted for the very interesting paper and for the charming notes which had been detailed. The cases of goitre which he had had under his observation were those in which there was melancholic agitation, where motor restlessness prevailed, with certain suicidal impulses, prompted more or less by the very painful nature of the delusions. One case came forcibly to his mind in which there was a very notable psychopathic history, both in the parentage and grand-parentage and numerous members of the same family. There were also very notable hysterical symptoms. It was a particularly painful case owing to the fact that the subject was a most talented young girl, with charming social qualities, who died very suddenly during the belladonna treatment. They, at the asylum, had had no experience of calcium salts, and had not attempted the more advanced treatment which the author mentioned. He would like to hear Dr. Williamson's views on the subject, as he knew he was interested in the treatment of exophthalmic goitre by the milk of thyroidless goats.

Dr. G. S. WILLIAMSON said he had had experience in two cases of that method of treatment, both in females, although there were no symptoms of insanity. Both patients had somnambulistic tendencies, and that was the only psychological change. Tremors were generally very well marked in those cases, and could be detected right throughout the body, even to the platysma in the neck. They used

the serum method—essentially the injection method—and it must be persisted in. The patient could not be without it. One of the patients did improve, and could now go about in social circles and conduct the usual routine of life, and the intervals during which she could dispense with the serum, contrary to the general rule, were extending, as though there was some acquired faculty stimulated by the serum. The explanation of the action of the thyroidectomised serum had, he believed, been stated to be the acquired function of hypersecretion of some of the parathyroid glands, or perhaps some of the other ductless glands of the body, and that it really was not in the same category as the immune bodies and the antibodies produced by the entrance into the body of something dangerous to it. He was very much interested in what Dr. Gilmour had put forward, and he thought there were some very suggestive remarks in the way of experiment in the paper. With regard to the nature of the infection causing enlargement of the thyroid, the cause of the symptoms was the hypersecretion in the thyroid. An epidemic broke out in Afghanistan during the rainy season in certain places, and there the thyroid enlarged and took on the hypersecreting function. That was directly traced to the presence of an amœboid animalcule in the intestines. It was on that fact that the salol treatment had been devised. Some of the experimenters used heroic doses of salol, and were able to effect a decided diminution in the number of men affected in that Afghan station.

Dr. BOWER noted with satisfaction the extremely practical nature of Dr. Gilmour's paper, and said it would be a great advantage to the Association if there could be many more papers of the same sort read before it. With regard to the number of patients with exophthalmic goitre twenty-two years ago when he was in America, Dr. Clarke, of Kingston Asylum, was very keen about it. He said 80 *per cent.* of all cases admitted into asylums got exophthalmic goitre. He, Dr. Bower, had certainly not found anything like that percentage.

Dr. OKR said the paper just contributed raised a very interesting point, namely, the difference of the secretion of the thyroid compared with that of the parathyroid. The latest theory with regard to the parathyroid was, that it acted as an antibody to the thyroid secretion. If that were so one could understand that in exophthalmic goitre, with hypertrophy of the gland and excess of function, by giving a serum from a thyroidless goat one supplied to that patient an antibody which was necessary to neutralise the excess of thyroid secretion in the blood. Of course the whole matter was theoretical, but he asked Dr. Gilmour if that theory would fit in with the treatment of the cases in which he found the gland enlarged, and if it accounted for the partial failure in cases in which the thyroid was atrophied and fibrous.

Dr. BAUGH said he had listened with great interest to Dr. Gilmour's paper, and though he could not say very much on the subject, he wished to narrate the case of a young woman, æt. 23, who came under his care in one of the Glasgow mental hospitals last year. The symptoms were very much those which Dr. Gilmour described in the case in which he said there were tidal changes in size. She showed also some signs of neuritis and a certain amount of diarrhoea, which he regarded as a cerebral manifestation. There was a slight exophthalmos, and the thyroid was palpable. She was put to bed and rested, and was given milk, but without much improvement; bromide, belladonna, digitalis were also tried, but without any appreciable effect. He then resorted to the serum treatment, and after giving 40 c.c. the treatment was discontinued. The most marked improvement appeared about three days after the cessation of treatment. About a fortnight later the case began to relapse, as did Dr. Gilmour's. This time he pushed the treatment until he gave 60 c.c. in fifteen days. After that the girl got well and continued so in the hospital for nearly a month. A month after discharge she came and reported herself still well. He mentioned it because it was apparently a point of interest, and he would like to know what doses Dr. Gilmour had given. He gave 4 c.c. daily of (Moebius) anti-thyroid serum. In patients who had shown symptoms of goitre for years before their mental condition necessitated their being sent to institutional care and treatment, improvement in the mental state followed the use of the anti-thyroid treatment, but he regretted to say that the patients were left, as one expected they would be, in a state of mild dementia; and they still at times showed slight transient states of excitement, lasting one or two days. Recently one patient with a manifestation of the polyglandular syndrome described by Continental writers died at this hospital.

Dr. HELEN BOYLE asked what advice ought to be given to patients with exophthalmic goitre in regard to marriage. On several occasions she had been asked about it in regard to young girls, and she had found it difficult to know what to say. One of her patients married and was doing very well, and she had one or two more who wanted to get married, and she had some doubt as to whether she ought to advise them to do so or not.

Dr. GILMOUR, in reply, said he felt almost guilty for having brought forward the paper based on such limited material. He had practically omitted all note of the blood changes, because the examinations were not perfect enough to bring forward the results of them. Those were of great interest in the course of the illness. He agreed that the serum had to be persisted in, and he believed it was necessary for the milk to be persisted in also for very long periods. Dr. Williamson had mentioned salol, and he believed salicylates had a further action, the salicylates in these cases probably influencing the metabolism. They were working on the excretions when salicylates were given, and most extraordinary results were obtained. He would be inclined to attribute the benefit obtained from the salicylates in those exophthalmic goitre cases to the changes in the metabolism, as well as to the intestinal action which the phenol produced. He did not know what to say in reply to Dr. Orr concerning the changes in the secretion of the parathyroid. It opened up the whole question of the pathology of the condition. One thing was undoubted, namely, that the milk had a distinct action, and that if animals were deprived of their thyroids and fed on the milk of a thyroidectomised animal they died a different death from that of the thyroidectomised animal fed on ordinary milk. It was a question whether one should not cease to give milk in such cases, because milk itself was a thyroid stimulant. He used 5 c.c. of the serum a day, and continued it for fourteen days at a time, then intermitted for a few days, and then went on again if there was any return of symptoms. One of the interesting points was that after going on for some time without apparent progress, the cases seemed to go suddenly forward to improvement without evident reason, and there might even be a sudden cure—often permanent. He did not know what to reply concerning the marriage question; he had much too little experience in the matter to give any helpful advice about it. The only married case with the condition which was under his care had a daughter who was a cretinic idiot.

Account of an Attempt at the Early Treatment of Mental and Nervous Cases (with Special Reference to the Poor). By A. HELEN BOYLE, M.D., Visiting Physician, Lewes Road Hospital for Women and Children, Brighton.

THIS paper is an answer to a challenge thrown down by Dr. Urquhart on the occasion of the Annual Meeting of this Association in 1905, when I had the honour of reading a short description of the small hospital we were then opening in Brighton and its *raison d'être*.

After some friendly words he remarked: "If it turns out to be any good no doubt we shall hear of it again!" You are going to hear of it again, and it is to be hoped that from what you hear you will think that the venture was worth while. Perhaps you will pardon my referring briefly to that former

paper and to the circumstances which led to its being written, even though it may sound somewhat autobiographical.

I had been working in the East End, after about two and a half years as a London County Council Asylum Medical Officer, and had been appalled at the sight of mental patients being manufactured from the rough, as it were. I met them every day at the dispensary and in the people's houses. I saw them, to my mind, neglected and maltreated, until after days, months, or years, according to their resisting power, they were turned into the finished product, *i.e.*, lunatics, and certified.

I saw why patients, whom we sent out well and apparently stable, had relapsed in a month and returned to us.

I saw the impecunious and harassed mother of five (or ten as the case may be) with a nervous breakdown after influenza, or possibly child-birth, getting up too soon, with bad air, bad food, noise, and worry. I saw her apply for treatment, wait many weary hours, and get a bottle and the advice not to worry, and go home and rest. No hospital would take her because she had no organic disease; no asylum because she was not certified. A few are saved by convalescent homes, but there, as a rule, they have to get up, make their own beds, and have little treatment and almost no supervision. Others are saved in the workhouse infirmaries, but why should they submit to the stigma? Often they refused this alternative, and it became borne in upon me that the difficulty was owing to the necessary, but sometimes troublesome to assimilate, mixture of law and medicine. It was apparent that many of these patients were really mental and nervous cases, and that, as things were, the treatment of such by experts was only attainable after they had (as Dr. Mercier would say) become sufficiently disordered in their conduct to need physical control. Physical control is what the law seems to take account of. Yet any alienist knows the signs, so slight to those who are not interested, the little want of balance, the excitement, the depression, which herald a breakdown, and herald it too often uselessly for months—sometimes for years. It is then during this, as it might be called, incubation period that the skilled treatment should be given. In no other disease is it necessary for the patient to wait until it has come almost to its full development before it gains the advantage of special knowledge.

The nervous case, the neurasthenic, is in as sorry a plight

as the early mental case. Both have to struggle along, battling against hopeless odds, until they are so far beaten that they develop on the one hand hallucinations or delusions, on the other hysterical anorexia, or vomiting, or some of the protean types of neurasthenia.

Then I read a little; papers on the enormous amount of required asylum accommodation, on the increase of insanity and nervous ailments, on national degeneration, on the necessity for treatment, not only care, of the insane, and all this time the best chances for the treatment were being wasted, and I wondered. To use a paradox as a short cut—insanity begins before a person is insane. A person can generally be seen to be wobbling before he falls down and then is the time to give him a hand.

There is no need to raise the debate as to whether insanity is increasing relatively, absolutely, or not at all. All will agree that nervous instability of every kind is too common to be safe for the national weal, that it hampers much of the best work, that it is responsible for much crime and unemployment.

There seems to be no question of more imminent social and national importance, none more worthy of discussion, than that of how nervous strain due to civilisation is to be met. This old world has seen the births and deaths of many nations, and their passing has been attributed to many causes. But if one may venture to deal with it broadly, it has probably always been due to some fault in nervous and moral stamina.

Without attempting to deal with those past, it is not a very doubtful assertion that our nation is menaced by the difficulty of meeting the demands imposed by the standard set up by our development; less physically than nervously. There is an old motto, true here as elsewhere—"Nothing for nothing, and very little for *id.*," and the continuous evolution of science, art and religion or morals, makes nervous and mental effort more universal and specialising common.

We pay for the extra delights and capacity given by knowledge by the effort to acquire it. We specialise because life is too short for us to be universally informed, and this over-weighting of one side is unbalancing, whether it be making the shanks of pins or perpetual gazing down a microscope.

If the Nation is to go safely on its progressive and surely admirable upward way, it is wisdom to admit the urgent neces-

sity for every effort to safeguard the nervous condition of the people who compose it.

There are, shortly, four ways of dealing with it.

I. *By Coping with the Results of the Strain.*

As by asylums, which, as I have described, come often too late with the poor.

As by nursing homes, which are unattainable by the poor.

As by special schools, at present a danger, for unless we protect them later it is poor policy to educate and improve defective children up to the level when they may marry, and such education increases the capacity for crime in those unable to control themselves.

II. *By Refusal of the Strain.*

Such as the simple life, the garden cities, monasteries, convents, sisterhoods, and Christian Science.

Everyone refuses some form of strain, and the sense they show over this as a rule is the measure of their nervous health. But this refusal is in itself a confession of failure; the human creature wants to evolve in the direction of being able to bear any strain without distress, and so he turns to another method.

III. *Eugenics, or the Science of Evolving Human Beings of a Kind best calculated to bear Progress.*

There have been, and are, many efforts in this direction; from the laws advocated by the various religions—even amongst savages, as the Totems—to the Christian marriage laws, and the general medical and social grounds, such as those of Malthus or Sir Francis Galton.

These I am too ignorant of to discuss, and even those qualified to judge seem to have advanced with small and uncertain steps as yet, and to be at war amongst themselves. There is, however, one method which seems so glaringly full of common sense that it may be mentioned, *i.e.*, the segregation in colonies of certain defectives. This has been begun by the National Association for the Protection of the Feeble-minded near Tonbridge, and it is deplorable and significant that it

should be so terribly needing funds when £70,000 can be easily obtained for one picture. (At least it may be argued that our nervous health should be guarded to enable the Nation to continue to appreciate this treasure!) This care of defectives has also been advocated by the Commission recently sitting.

IV. *Mental Hygiene—National and Individual.*

It is in connection with the first and fourth that this little hospital alluded to may be mentioned, for it claims to deal with the results of nervous stress earlier than can be done in any other way, and to try to teach that mental hygiene as far as possible to the individual which, if generally appreciated, would result in national hygiene of the same kind.

Just as in sanatoria for phthisis, the teaching of hygiene is one of their most valuable properties.

It was started in the latter part of 1905, and is peculiar in one respect at least, that it admits patients suffering from any form of nervous breakdown; not only those requiring rest in bed, but those also who need exercise, employment, occupation, distraction, amusement, open air and supervision. There is a sort of unwritten law in general hospital practice that when a patient is allowed to be out of bed she is fit to return home. As every nerve specialist knows, this is far from being the case; in my own experience it is almost the opposite. Those who can be in bed are more easily treated at home than those who ought to be up.

There is a small garden in which the patients have tea and lie out and do some work. They go for walks on the downs or to the sea; they bathe, have a piano and music, sometimes a little dancing; they can go to threepenny concerts in the dome, listen to the coons on the beach, and attend whatever place of worship they like, all as ordered by the medical officer, and subject, of course, somewhat to the exigencies of the staff. For treatment there is rest in bed, hydropathy, such as hot mustard packs, steam baths, electricity, exercises (breathing and others), massage, supervision and drugs. As far as I know this is a combination which is unique and unattainable elsewhere for poor people. That they are well known and recognised forms of treatment is apparent, for there are dozens of such homes all over the country for the well-to-do, who really need them

less, and the charges in most are very heavy. In this the patients pay what they and their friends can afford, and in cases of destitution the council is empowered to admit, if thought well on examination into the circumstances, for nothing at all. If anyone needs entire change of life and surroundings in order to get better surely it is the poor, tied as they often are inexorably by their poverty to conditions which make recovery impossible. We have been repeatedly begged to take in men and boys, so that it is hoped that soon there will be a similar place for them.

With regard to the staff: there are a house-physician, a visiting physician, a consulting physician, a matron and two probationer nurses and a cook, and all the work of the place is done by the stronger patients and the nurses.

There are ten beds and two cots, and the cost is roughly about £500 a year, which compares favourably with other hospitals in Brighton, and the maintenance rates could be reduced if it were a larger institution.

Of 161 consecutive cases there have been admissions from all parts of the country: Ireland, Wales, Cornwall, Herefordshire, Kent, Surrey, London, Sussex, and the Midlands. This indicates the widespread need; as also does the fact that as regards social position we have had governesses, dressmakers, milliners, embroiderers, shop assistants, missionary's daughters and two missionaries, the niece of a lord, domestic servants, housewives, boxmakers, laundresses, nurses, housekeepers, clergymen's wives, actresses, professional singer, parish worker, and ex-matron of a training home, a photographer's assistant, and two students.

The absolute recovery rate is between 40 and 50 *per cent.*, but not much over 40. This may seem low, but in regard to the types of cases admitted I think it is not so. Also that, however much improved they were, unless *quite* well on discharge they were not included, and some were as well as they had ever been. One patient died, one was quite well on admission.

Only eighteen were unimproved, 11 *per cent.*, and most of them were unsuitable cases. Of these one had been ill three years, eleven were subsequently certified. One was a Russian, who could understand no English and went out in two days, three were defectives, two were hypochondriacs, one was phthisical and noisy and sent out.

Many of the improved were well on the way to recovery; we allowed them to go out to finish elsewhere because we wanted the beds so much. Many of them went back to work, and many we have heard of as doing very well since. In a good number there was a history of years of illness.

The one death was due to carcinoma.

One serious accident we had, which I gave you details of some time ago.

The one case admitted well was interesting; she was a child supposed to be the author of innumerable pranks and mischievous destruction. This was afterwards traced to a maid-of-all-work.

Eleven were not nervous cases unless you include rheumatoid arthritis, of which we had several.

Many gained one stone in weight and one patient put on two stone.

It is often supposed that the treatment of nervous cases is very unsatisfactory, but this record is not at all disheartening. We have had much success with the more purely mental side of the treatment, such as encouraging a wholesome attitude of mind, suitable choice of occupation, suggestive therapeutics it might be called, but steam baths have also been particularly useful. Thyroid extract helped in two cases, and creasote internally in many others. Also marked improvement in several cases followed attention to the teeth.

There is to my mind no work more satisfactory, no patients more grateful, than these who have suffered from illnesses which seem to them almost to disintegrate their personality, and if they can be saved from worse and be restored as able workers to the community surely the case is established for the need of this hospital and similar ones.

It is humane and it is preventive work.

It is economy in time, labour, money and happiness, and if done thoroughly it is conducive to mental hygiene and therefore to natural longevity.

I must acknowledge much invaluable help given by Dr. A. Grogan and Dr. Edith Martin.

DISCUSSION,

At the Annual Meeting held at Wakefield, July, 1909.

The PRESIDENT said the Association was extremely indebted to Dr. Helen Boyle for her highly suggestive paper. The subject of it was in the air at the

present time. There were divers views extant concerning the treatment of such cases, and the organisation of such treatment, through public institutions, or by voluntary aid. He believed Miss Boyle's was by means of voluntary aid, except for some contribution from the guardians. To his mind the great point was that in those cases voluntary help should be encouraged. One point in the paper struck him forcibly, namely, the fact that the patients came from such great distances. That made it difficult to follow up the cases afterwards. Perhaps the author would say whether a registry of the cases were kept, so that they could be followed up afterwards. With regard to the asylum out-patients' treatment, which they had adopted at Wakefield, and with which he believed Dr. Rayner also was familiar, the great difficulty there was the following up of the cases; for although they came more or less from a localised centre, it was found that the duties of the medical staff were so great that they could not follow up the subsequent course of the cases. Moreover, the conditions were very different. In Dr. Boyle's hospital those patients were under continuous supervision and observation, and it was scarcely parallel to the Wakefield Out-patient Department. And yet much good was done to those very cases to which Dr. Boyle had referred. Many cases which came for treatment at the Wakefield Hospital, even when they were regarded as more or less recovered, showed relapses. So from that point of view the system adopted by Dr. Boyle was distinctly satisfactory. He thought a great feature with regard to those cases was that of their education in recognising their own weaknesses. There was, of course, the individual recognition of the stress. Each man was a measure of his own environment to some extent, and ought to know, more or less, the amount of resistance which he could present to the stress of life. The education which taught the poor how they could meet the stress caused by their environment was a very important point here, and no doubt it was more or less inculcated in the hospital which had been described. A difficulty came in with regard to the feeble-minded; should any of them be sent to convalescent homes? If so, medical authorities must come in; he must decide what was stress and what was not; and what the individual could and could not resist. It appeared to be in every way a very hopeful theme for adoption more generally; and the only point about which he did feel some doubt was that concerning patients coming from a distance. Another question which should perhaps be considered was in regard to phthisical patients. Should they be associated with the class which had been referred to? He rather doubted it; and the system at certain homes was that of excluding at once patients with phthisical symptoms. He hoped there would be a very animated discussion on the paper.

Dr. RAYNER said that, having been very much interested in the Out-patient Department of St. Thomas's Hospital, and having a keen interest in mental disorder in the early stages, which he regarded as by far the most important stages of all, when the hope of cure was immensely greater than at any other stage, he wished to say a few words on the paper. He had constantly seen patients who would not go into the asylum, and would not go into the workhouse infirmary, and therefore, until they were in a condition to be certified, they could get no proper treatment. Year after year he had described that condition of things in the reports of the Charity Organisation Society. A parallel case would be if there were no treatment for diseases of the eye until patients became absolutely blind. It was almost so in regard to mental diseases in the poor in London; not, of course, in regard to the well-to-do. Therefore he welcomed that report of Dr. Boyle's pioneer work, which he hoped would go on to a great success, and be imitated all over the country, for the need of it was very great indeed. He thought the difficulty spoken of by the President as to patients coming from a distance would be solved in time, and from one's experience in the After-Care Association one could say that patients were looked after and their subsequent welfare seen to all over the country, although the Association was a very localised body. He was sure the movement was a splendid one, and that there was much good in it, for by its means much insanity could be prevented. He believed out-patient departments saved many patients from admission to asylums, and he believed such institutions as Dr. Boyle had described would save a great many more.

Dr. OSWALD said he had listened with very great interest to Dr. Boyle's paper, for which he thought the best thanks of the meeting were due. He had been connected with the treatment of early mental disorders in connection with one of the

large county hospitals for some time, and so the treatment of early or incipient cases verging on insanity interested him very much. He did not know of any more hopeful sign, in Scotland at all events, than the increasing tendency of the poor in that country to take advantage of dispensaries of that sort and to apply early for treatment. There was no difficulty in getting people there to come for treatment, but there was a difficulty in carrying out the appropriate treatment which Dr. Boyle had given them, by taking them away from their home surroundings and putting them into a home in the country and treating them there; for he did not know that there could be any worse institution for such cases than a nursing home in a populous centre. It was difficult to know what to do with cases of neurasthenia and mild nervous depression and commencing insanity in consulting practice. Such cases could not be sent to an asylum, as they were not certifiable; and the only place to which they could be sent was a nursing home. But, in spite of what Dr. Boyle had said, he believed in giving the patient a bottle of medicine, not necessarily because it was very efficacious medicine, but because with the medicine one gave advice, and the latter was very serviceable in educating the public mind as to what they ought to do and what to avoid, where they ought to live, and so on. Some were not very poor except in the matter of education; but in the case of the very poor one was practically compelled to give them a bottle of medicine in order to get them to follow the advice. If the advice were given without medicine they would not act on it, but if both were given they would take both. At the General Hospital the managers were very kind, and they courteously allowed many of those patients to be treated in the wards. At the Edinburgh Infirmary an arrangement had been made whereby those patients were to be admitted to the wards, half the cost of their treatment being provided by the parochial authorities. But in Glasgow such was not the case, though the Directors were willing to receive those patients in the general wards for treatment if they were certified to be fit and proper subjects for it. They could be said to be suffering from neurosis and yet be admitted, but not if they had a psychosis. They must not be called cases of melancholia, and certainly not cases of insanity. And, fortunately, in Scotland they had large convalescent homes which did not seem to be managed, or organised, or worked on the very strict lines obtaining in those mentioned by Dr. Boyle. Those who were sent to these Scottish homes were not made to get up early in the morning and do out their own rooms. They had certificates setting out that they were suffering from certain conditions requiring rest, and those patients got the necessary rest and treatment as described by Dr. Boyle. He felt extremely indebted for the paper. He had himself thought of establishing a place of the same sort, but the financial difficulty in this, as in many other cases, loomed large, and there did not seem a possibility of carrying it out. And when seeking help for such a scheme, the sympathy one had from people who might endow such an institution was not very great.

Dr. RAYNER, adverting to what Dr. Oswald said about convalescent homes in Scotland, said they had much more latitude than those in England. In England the greatest care was taken to exclude any case which could be called mental; such cases could not be got into convalescent homes.

Dr. BOYLE, in reply, said she quite agreed with what had been said with regard to the after-care of such patients at a distance. It certainly was difficult. Still, patients wrote a good deal after they had left, which was one of the ways of keeping in touch with them. And some, if they could get the necessary money, took their holidays in Brighton. But she hoped that condition of things would not last long, as there should be hundreds of homes all over England. One of the difficulties was that applicants for admission had to be kept waiting so long. At present there were twelve to fifteen patients waiting to enter. The difficulty with the out-patients was that one could not keep in continuous touch with them. It took half an hour to get a nerve case well in hand, so that next time she came she would pay due attention to what she was told. With out-patients the skilled expert had to do what, in hospital, was done by the nurse or matron. The phthisical patients were not kept in the Home. At Brighton there was a sanatorium, and such patients were sent to that. With regard to Dr. Oswald's remarks concerning treatment in town, in opposition to the opinion of many specialists she was in favour of having nerve cases in or near a town. To most of them the depths of the country, to which many of them were unaccus-

tomed, were very depressing. She had had that clearly indicated to her, because before she had that hospital to look after, for several years she had patients who were able to pay fees, and in the first year or two when she wanted to clear up her house and have it painted and papered, she removed all her patients to a place she took in the country. It was an exquisite bit of country with everything one could wish for, and all that one thought would be necessary for a nervous case, and she thought the patients there would flourish exceedingly. But they did not. They had not enough in themselves to provide their own distractions, and in going for the lovely walks around they saw the same trees and scenes. Her cases had done much better in Brighton, where they could look in the shops and see the latest hats and so forth. It was of very great help for every nervous case to provide some distraction, except some forms of neurasthenia, which cases did very well in the depth of the country. Dr. Oswald seemed to think that the Home took only people of the better sort; but really they had people of every sort. There had been alcoholic servants, schoolmistresses and teachers, and the tone of the hospital had been uncommonly good; there had been practically no trouble in getting them to work harmoniously together. Servants naturally fell into their accustomed work of scrubbing, etc., wives of clergymen fell into playing music for them in the evening, sewing, etc. There had been very little friction and class distinctions had been almost unknown. She was very much obliged for the comments which had been made.

Dr. URQUHART said he thought the Association ought to make a special acknowledgment to Dr. Helen Boyle for the magnificent work she had done in face of what must be recognised as enormous difficulties. No one recognised more than those in the speciality how important were the rational methods of treatment such as the authoress had described. When one thought of how many lives had been saved by the treatment, and how many difficulties had been surmounted and what a success that scheme had been, he thought the Association should specially recognise the important pioneer work she was doing.

The PRESIDENT said he was sure all were in sympathy with what Dr. Urquhart said; they fully recognised the noble work of Dr. Boyle in surmounting the attendant difficulties, and when such noble voluntary efforts were put forward they ought to meet with the utmost success and encouragement from the members of the Association. It was ridiculous that there should be only one home of that kind for such a large centre, and all would look forward to the time when such homes and such institutions should be established throughout the length and breadth of the land. Particularly was he in sympathy with what Dr. Rayner said, that they should be regarded as accessories to the out-patient departments of the hospitals. The Association was extremely indebted to her for her very suggestive paper.

Alcoholism, Crime and Insanity. By L.O. FULLER, M.R.C.S.,
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Inebriate Reformatory.

IN confining the following remarks more particularly to a personal experience, I trust I shall not appear unconscious of the more able treatment the subjects of this paper have received at the hands of more experienced observers.

Any investigation into the nature of inebriety or into the conditions underlying its prevalence throughout that class of the community from which the "reformatory" inebriate is drawn will of necessity relate to the occurrence of crime, and,

to some extent, the sources of insanity ; for a very considerable proportion of all cases who came under observation in reformatories have associated with habits of alcoholism a career of crime and prison recidivism, and many present evidences of permanent disorganisation of the higher cerebral functions. Further, there is no lack of evidence to show that fully one half of the cases who eventually land in such institutions were not endowed with an ordinary degree of mental development previous to acquiring habits of indulgence in alcoholism. To its influence they are peculiarly susceptible and intolerant, and it is often the means of bringing to the surface innate characteristics which, but for its influence, might have remained latent.

The question of pre-existing mental defect is one of the greatest importance in view of any future methods that may be adopted for the control of this class of inebriate. During the past fifty years the continued increase of mental and physical disability associated with alcoholic excess has received special consideration from a legislative point of view, but, although good results have accrued in the cases of individuals who have willingly submitted to the opportunity of reform afforded them, it is nevertheless a matter for common observation that in the applicative measures to a larger and unwilling class, permanent benefit to the individual is the exception rather than the rule, and the advantage gained to the community is insignificant as compared with the magnitude of the evil it was intended to curtail.

Of the cases who have come under my own observation not more than 35 *per cent.* can be looked upon as of average mental capacity. From 45 to 50 *per cent.* are persons whose mental condition is below normal, but above that of imbecility ; whilst the remaining 15 to 20 *per cent.* consist of imbeciles, feeble-minded epileptics, demented, or are the subjects of recurrent or periodical attacks of mania—cases who are unlikely ever to acquire or regain a normal state of mental equilibrium.

Some 5 or 6 *per cent.* have undergone terms of asylum detention, and will probably do so again. From 3 to 4 *per cent.* of all admissions are epileptics.

The following are the chief types met with in reformatories:

(1) Persons who, apart from a morbid craving for alcoholic drink, are apparently normally constituted. They are of average

mental capacity and possess sufficient self-control to abstain from intoxicants for considerable periods; but they cannot do so without remission, and the return to drink is usually followed by a prolonged bout. Indulgence increases the desire, and on each occasion of drinking a state of intoxication is reached. During such states they are riotous and disorderly and become violent on the slightest provocation. When such a bout is not terminated early in a police cell, it is continued more often than not entirely without food, and ends in an attack of acute alcoholic poisoning from which recovery may not take place. Whilst under detention, such persons as merely possess this craving are usually fairly well conducted and give no trouble. They usually state that the habit was acquired gradually when they were comparatively young. They cannot give any reason for their occasional bouts, beyond that from time to time they feel it coming over them and are powerless to resist.

(2) Persons who combine a state of average, sometimes more than average intelligence, with a more or less well-marked condition of nervous instability, or at least of a nervous organisation which is ill-fitted to withstand the exigencies of an ordinary life. They are often neurotic, hysterical, or hypochondriacal, or are subject to extremes of depression or elevation. A tubercular diathesis is not at all uncommon, and the subjects of active tubercular disease are nearly all of this class. They contribute also the greater proportion of the tubercular family histories. It is this type which acquires drinking habits in the first instance as a result of ill-health, the debility associated with pregnancy or lactation, or domestic worry. They are not heavy drinkers. They "take a drop of spirits to brace up the nerves," which drop becomes gradually more necessary, and develops the habit of "tippling." Their sense of duty and responsibility become subordinated to the ever-increasing desire for alcoholic stimulation. They neglect their work and their homes, and bring untold misery upon their children. Later a state of physical and mental depression is reached, with occasional remissions to a state of exaltation or excitability. Impulsive acts are often committed, and not uncommonly attempts at suicide.

Under detention these people are not usually insubordinate, but occasionally commit impulsive acts for which they are full

of regret in their calmer moments. They are constantly requiring medical treatment for one or other of their unimportant ailments. Some of course are consumptive, and require special methods of treatment. Often such cases improve considerably in their mental attitude, and acquire greater stability during the first nine to twelve months of detention, but are in many instances very disappointing. They seem to relapse back into their former state just when one is beginning to feel hopeful of permanent benefit. I firmly believe that if at this stage patients could receive promotion under a graduated system, and feel that a step nearer freedom were gained, it would give the impetus for a further effort, and thus obviate the evil influence of a mind rendered discontented and cheerless by the fact that there still remain so many more months of their sentence. They become disheartened, restless, and morose; their physical ailments either increase or imaginary ones crop up, and they tend to develop one or other of the impulsive forms of insanity.

(3) This type combines a degree of mental deficiency with instability. The condition is one of high-grade amentia with instability. The members of this group exhibit with defective perception and retention a marked want of the power of association of ideas and reasoning powers, and are lacking in the moral sense. They are restless in disposition and unable to concentrate their attention, and are usually very impulsive and reckless in their behaviour. They present considerable variation in the degree to which one or more of these various characteristics are developed. The milder cases, although unable to conform to the customs of the community when at liberty, are often amenable to discipline during detention. Such cases are, however, exceedingly sensitive, and are the subjects of violent fits of temper, more often than not unintentionally provoked, or the outcome of some trivial incident which should have passed unnoticed. The more marked cases, unfortunately in a majority, are the most dangerous and troublesome of all cases which are met with in reformatories. Their most noticeable feature is perhaps the extreme inconsistency in their behaviour. The suddenness of the change from a state of comparative quiescence to one of ungovernable frenzy, the triviality of the cause which such persons offer in explanation of their behaviour, and the exceeding violence

they are apt to, and do commit, are all evidences of a condition of irresponsibility. Added to this are not uncommonly delusions of suspicion and persecution, which doubtless account for such outbreaks in some cases.

In this type alcoholic habits are acquired during adolescence, quite frequently arising merely out of their associations. Under the influence of alcohol, of which it takes little to inflame them, the milder cases become noisy and generally disorderly ; the worse cases become quarrelsome, and commit acts of criminal violence.

Under the present system of fixed or predetermined sentences the results in these cases are unsatisfactory. In the earlier stages of detention they are troublesome ; subsequently they improve for a time, but later they become restless, their old hostility revives, and they become obstreperous and violent often without apparent cause.

(4) The members of this group are mild aments of the stolid type. They are as a rule quiet, inoffensive persons, unimpressionable and unemotional. They drink quantities of beer, soak and become stuporous. Under detention they give little trouble except on account of their extreme laziness. They possess no initiative, lack concentration, will work as long as they are under close supervision, and cease as soon as it is removed.

Such cases are probably born tired, are the subjects of chronic weariness, and tend to become demented at an early age. Those who eventually regain their freedom return to their former occupation of resting at the nearest public-house.

With regard to epileptics three different types are met with:

(1) Persons in whom epilepsy is associated with congenital syphilis. These cases do little good under treatment, and in spite of removal from alcoholic environment have frequent and severe fits. They are all mentally defective.

(2) Cases in which epilepsy appears apparently as a result of their alcoholic habits. There is in these cases a neurotic heredity. The fits disappear on removal from alcoholic environment.

(3) Feeble-minded, mild epileptics. These cases occasionally become suddenly acutely maniacal with homicidal tendencies.

In the family histories of the cases that have come under my observation the following percentages relating to the occur-

rence of drunkenness, tubercle, insanity, and epilepsy in the parents were obtained :

Drunkenness, 28 *per cent.* It occurred three times as often in the father as in the mother, and in both of them in 3 *per cent.*

Tubercle, 12 *per cent.* Insanity, 8 *per cent.* Epilepsy, 6 *per cent.*

Alcoholism and tubercle occurred together in 9 *per cent.*, but in one-third of the cases the father was the subject of both.

In one case the father was alcoholic and died of phthisis, one paternal aunt was insane, the mother was healthy and of steady habits, but several of her brothers were heavy drinkers. Of the children of this union, one son was alcoholic and died of phthisis, another son has epilepsy and drinks to excess. Two daughters died of phthisis, one of them was also epileptic. Of the two remaining daughters, one of them is phthisical and has had three children during three years of married life, all of whom are healthy at present. The other remaining daughter is under detention as an inebriate, has no children, but has had one miscarriage.

The average number of children born at full term to the inebriate mother is 4.5. For every 100 such children there are twenty-three premature births—that is to say, abortions and miscarriages. Of full-term children 54 *per cent.* die during the first year, 62 *per cent.* before the end of the second, 69 *per cent.* before the end of the fourth year, and 74 *per cent.* before the age of ten. The following facts relate to fifteen children whose mothers were under detention as inebriates at the time of their birth, not, however, in order of their occurrence :

(1) A case of agnathia. Apparently a case of suppression of all the structures derived from the branchial arches—the palate, tongue, lower jaw, and hyoid are all absent.

(2) A case of “atresia recti.”

(3) Hydrocephalus with malformations of the hands and feet. Mother phthisical, child illegitimate.

(4) Idiot. Has spastic condition of both legs. Mother is subject to recurrent attacks of mania. Child is illegitimate.

(5) Imbecile.

(6) Imbecile. Had convulsions in infancy.

(7) Imbecile. Mother had double aortic disease and occasional attacks of mania.

(8) Congenital syphilitic. Illegitimate. Backward. Just able to say a few words at the age of two.

(9) Rickety (was admitted with mother at the age of nine months).

(10-15) Presented no peculiar characteristics beyond the fact that they were all late in learning to talk. Four of them were delicate, one being the son of a phthisical father and an inebriate mother. One was very wayward and early showed a tendency to disobedience and was "hot-tempered." One was of an exceedingly nervous temperament.

Pathological Changes.

The morbid organic changes met with in alcoholic subjects generally must, I think, be rarely found in the class of inebriate who comes under observation in reformatories. Hitherto I have not met with any cases in which cirrhotic changes were found *post mortem*, nor have I had a case in which, during life, there was reason to suspect the existence of such changes. Cardio-vascular changes are more common, valvular being present in 3.5 *per cent.* of the cases. There is, however, usually a history of some condition other than alcoholism with which the change is connected. Arterio-sclerosis is present in 3 *per cent.* of the cases, all of whom are past middle age. I would particularly mention, as occurring in 7 *per cent.* of the cases, the presence on admission of some condition giving rise to an aortic systolic murmur. It is rough, of short duration, and distinctly conducted into the neck. So far as I have been able to ascertain it is unaccompanied by other cardiac changes or anæmic blood conditions. It tends to disappear with cessation of alcoholic habits. Possibly it is dependent upon some roughening of the aortic valves, which, but for the removal of the cause, would terminate in sclerosis and incompetency. Such cases are probably not commonly met with in hospital practice for the reason that the patients have no subjective symptoms and do not seek medical aid. The murmur may, of course, be due to a relative stenosis associated with dilatation of the aorta. Functional disturbances of the nervous system due to alcoholism are invariably well marked in such cases. Whatever be the pathological change it tends to clear up within a few weeks. Gross cerebral lesions, hæmorrhage, or

thrombosis occur only in 1 *per cent.* of the cases. Alcoholic neuritis is present in only 1 *per cent.* of the cases.

Reference has been made to the occurrence of temporary mental disturbances, sometimes accompanied with "explosiveness" or violent brain-storms. There seems some reason to believe that such temporary conditions are often induced by the liberation into the blood of some toxin or toxins associated with temporary derangement of the general metabolic processes, for they commonly coincide with the occurrence of menstruation or with disturbances of the digestive functions.

Disorders of menstruation are comparatively common amongst inebriates, and the form of the disorder and the nature of the mental disturbance accompanying it show considerable variation in the different type of case. For instance, in the type possessed of average mental development with instability menstruation is frequent, irregular in its occurrence, and excessive. The associated mental change, when present, is one of irritability, restlessness, depression of spirits, and occasionally pronounced hysterical attacks.

In the next type of low mental development the common menstrual disorder is infrequency with shortened period. Such cases become obstreperous and are liable to commit acts of violence on the slightest provocation, are aggressive, and provoke quarrels. So close is the association in some cases that attendants, when reporting a case of misbehaviour, are in the habit of adding to their report, "this patient is menstruating."

There are under observation at the present moment a few patients in whom menstruation is suppressed, but who, at the times menstruation should occur, complain at first of intense pain in the head, limited to the roof of the cranium, and subsequently become delusional. One such case, æt. 38, has undergone asylum detention previous to the cessation of the menses. With epileptics it is noticeable how frequently the fits become more numerous during menstruation. In two cases at present under observation the fits rarely occur except at the menstrual periods.

With regard to digestive disturbances, chronic inflammatory conditions of the stomach are of course common, and the subjects of such conditions are apt to become mentally depressed with the exacerbations in the gastric symptoms that from time to time occur. The association of pyorrhœa alveolaris

with subacute gastritis and general disturbance of the health has, in a few cases, been accompanied by marked mental changes. The patients become excitable, garrulous, mildly maniacal, and in one case removal of all the teeth in the lower jaw had eventually to be resorted to. Since the operation there have been no acute symptoms although the patient is mentally defective.

Explosive attacks with disorderly outbreaks in the lower types not infrequently occur in the subjects of constipation. Such attacks rapidly disappear under the treatment for an overloaded colon. I do not wish to indicate that the mental changes that are met with are always associated with one or other of the general conditions mentioned, for there are by no means a few cases in which none of these conditions is obviously present. At the same time it is found that the administration of a brisk purgative, with subsequent low diet, is not uncommonly efficacious in reducing the symptoms.

Ætiology.

Inherent degeneracy: environment—ante-natal, post-natal.—In persons who come under reformatory detention the occurrence of inebriety is usually to be regarded as, in the first instance, dependent upon the possession of a constitution which is peculiarly adapted for the acquirement of the inebriate state. The origin of such a constitution is attributable to the influence of a variety of conditions in the parents, of which the chief are alcoholism, tubercle, insanity, epilepsy, and syphilis. But, in addition to inebriety, this constitution forms the foundation of other abnormal states, such as vagrancy, crime, or prostitution, and the impulsive psychoses. As a matter of experience the inebriate more often than otherwise combines several of these states; but it is, of course, the predominance of his alcoholic habits which brings him under notice. Alcoholism in the parents of these persons occurs three times as often in the father as in the mother, and is, undoubtedly one of the most important factors in the production of a state of nervous instability, of which intolerance of alcohol is one of the indications and of which inebriety is one of the results.

Whether the alcoholic habit is or is not directly transmitted to the offspring, the influence of the poison is nevertheless

exerted through many channels. It renders the parents physically unfit prior to conception. During pregnancy not only does it add to the chances of accident, but, as both experimental and clinical evidence tend to show, it is responsible for nutritional disturbances which result in physical and mental abnormalities, or in death of the embryo. The fact that the children of alcoholics are more liable than the children of other parents to develop habits of alcoholism, and are perhaps more liable even than their own parents to acquire such habits under similar environment; are more to be regarded as the effect of such environment upon a poorly organised and unresistant nervous system rather than as an evidence of transmission of an acquired characteristic. The fixation of a characteristic, before it can be transmitted as such, requires the persistence of a particular environment through many generations. The tendency is for the offspring of alcoholics to become less resistant to the effects of alcohol with each succeeding generation, and finally to become physically and mentally incapable of reproduction even should they survive the first few years of life. The prevalence of menstrual disorders in the inebriate mother, the frequency of miscarriages, and the high percentage of infant mortality, are all evidences of an unfitness on the part of the mother to perform the maternal functions, and on the part of the child to withstand the strain of an existence under the environmental circumstances which usually surround him. Even under special circumstances, for instance when under the care of a specially trained and experienced hospital nurse and the constant attention of her assistants, the child of the inebriate woman is often reared only with difficulty, and early shows its unfitness to meet the demands of an ordinary existence—an existence apart from the alcoholic environment. The influence of alcoholism in the parents, important as it is, is more often than not enhanced by the co-existence of other detrimental agencies. Unemployment, pauperism, the malnutrition consequent upon these social conditions, tubercle and syphilis all contribute with alcohol in the production of the degenerate, of which the population of a reformatory for inebriates almost entirely consists.

Evidences of congenital syphilis are not, however, present in more than 1 *per cent.* of reformatory cases. The combined influence of alcohol and syphilis in the parents is probably

sufficient to cause early death of the offspring or to lead to the asylum before the age at which alcoholic habits are usually acquired. The only cases—three in number—that have come under my own observation, bearing distinct evidences of congenital syphilis, are bad epileptics. All have undergone, or are undergoing, their second term of reformatory detention; and two of them have been in asylums.

Post-natal environment is of no less importance than are ante-natal influences in the causation of degeneracy. The future vagrant, alcoholic, or criminal (often illegitimate and not wanted) is precipitated into an atmosphere of dirt, drunkenness, and immorality. If he survive the first few years of life, an irregular school attendance and careless indifference on the part of his parents do little for his future welfare. Although he may not be possessed of the power of intellectual development, he is usually not wanting in imitative power, and is ever ready to adopt the example of his parents or associates—frequently he is encouraged to take alcohol.

The onset of adolescence finds him ready to take whichever path offers to him the least resistance. As an instance one would mention a case that came under observation a few weeks ago. A young woman, æt. 22, whose parents were both drunkards, acquired drunken habits at the age of eleven. At fourteen she became a prostitute, and for the last eight years has spent her time in drink, gaol, and prostitution. Another girl, at the age of fourteen stole some money of her father's, ran away, became a prostitute, and spent the next six years in thieving, drunkenness, prostitution, and prison. Under detention she was obstinate, violent, and quite reckless as to the effects of her behaviour. Many such cases might be instanced, and their life-histories tend to show how frequently the characteristics of such individuals become pronounced in adolescence.

The results of similar heredity and environment are frequently in evidence in the maternity wards of any London infirmary. One has seen in such places girls who, at the age of seventeen or eighteen, were for the second or third time depositing with the ratepayers the fruits of their orgies, and who were by no means ashamed of their achievements.

One might also venture to predict that some such future is in store for those children who are at present under observation, at least judging from past experience of inebriate

mothers and some acquaintance of the present ones. Of eight inebriate women discharged with their children during the last two years, five have already undergone terms of imprisonment, one I have lost sight of, and two have only recently regained their freedom.

But on the other hand the effects of an environment entirely different from that which usually takes so prominent a part in the life-history of these degenerates is well instanced in such institutions as the Metropolitan Asylums Board Training Ship "Exmouth." Whilst acting as medical officer to the crew I had the opportunity of seeing orphans and others of similar parentage to the cases previously discussed developing, under kindness and discipline, into useful members of the community and being drafted into one or other of the services. I am told that the percentage of failures from that school is remarkably small, but I am not in the possession of figures. Similarly at the Darenth Industrial Colony and like institutions the obviously feeble-minded are, under favourable environmental agencies, rendered most useful, although not actually fit to take their place in the outside world. Unfortunately unfavourable environmental agencies continue to exert their influence throughout adolescence, and the appearance of anti-social tendencies does not receive, under present methods, the necessary early check. Repeated prison sentences do not act as a deterrent, and the young delinquent soon becomes inured to them and careless of the results of his behaviour. Hence it is that, often not until after many years of prison recidivism, does he come under reformatory detention. As an instance I would mention a case under my observation which was sent to three years' reformatory detention at the age of seventy-nine, probably on the ground that it is "never too late to mend."

Methods of Control.

Of the present methods of dealing with the inebriate I would mention one in particular—that by which the majority of inebriates are committed to reformatories. A person who has been convicted on a charge of drunkenness three times within the previous twelve months appears before a magistrate the morning after a drunken brawl. It is in the power of the

magistrate to sentence this person to a comparatively short term of imprisonment, which, however, his experience tells him is unlikely to produce the desired result. As an alternative, the person charged can be sentenced to detention in reformatory for a period not exceeding three years *provided his (or her) consent to be dealt with there and then is first obtained!* The magistrate, owing to lack of provision by the State for such cases, must apply to the managers or owners of reformatories for accommodation for his case. It is open for the managers to refuse to accept the case unless the sentence is for the full term of three years. As a matter of fact every case that has come under my own observation has received the full three years' sentence, with no hope of remission of even a part of it. The effect of this is that a woman who, as the result of the brutal treatment of a drunken husband, or as the outcome of one of those states of temporary or increased nervous instability so commonly associated with the "change of life," succumbs to the temptation of alcohol, receives precisely the same term of detention under precisely the same conditions as the drunken prostitute who, at not little cost to the country, has undergone a score or more terms of imprisonment, has been often guilty of criminal conduct, and has taken a share in the spread of venereal disease from John o'Groats to the Scilly Isles!

It is thus obviously a necessity that accommodation for all these cases be provided by the State and controlled by officials under a uniform system of administration. The actual application of the system of reformation or improvement should of course be in the hands of specially experienced persons, whose methods, based upon a proper understanding of the characteristics and varying necessities of the individuals submitted to their care and control, should tend, under a uniform system, towards the attainment of good results hitherto not seen, and which can hardly be anticipated under the varying methods of different managing bodies.

The most scientific method of dealing with degeneracy in any of its manifestations is obviously one which aims at removing the causes rather than alleviating the symptoms. The gradual improvement in hygiene, and the greater care and scrutiny in the moral education of the young, will doubtless bring increasing benefits with succeeding generations; but what is required now is a greater elasticity in our educational

system and its more extensive application to the adolescent, more especially to the delinquent.

If, through lack of intelligence by reason of his birth or faulty upbringing, an adolescent evinces tendencies towards vagrancy, alcoholism, crime, or other form of delinquency, he should at least be given a chance, by instructive detention, of acquiring a proper fitness before those tendencies have developed into a second nature, which it becomes increasingly difficult to eradicate. In the case of an older offender, it is in his interest and in the interest of the community, that he should be taken care of until he has acquired habits which fit him to take his place as a free member of the community.

When, by reason of long-continued drinking habits or from any other cause, a person has become incapable of managing himself or herself and his, or her, affairs, the most humane procedure is to put that person under the care of those whose skill and experience will give him the best chance of restoration to a state of mental equilibrium prior to his undergoing a term of reformatory detention. If he is beyond the aid of the mental specialist, he can be kept out of harm's way at no great expense or, at any rate, at a lesser cost to the community than the freedom of his habits would incur.

The form of detention best adapted to meet the requirements of any of these conditions, is one which is "indeterminate." It should at the same time be corrective in the widest sense of the term—that is to say, it should combine medical, instructive, and disciplinary methods. The short prison sentence, the meaning of which he does not comprehend, is often for the youngster the commencement of a hardening process. It not infrequently throws him into the ranks of the unemployed, to become unemployable, anti-social, and finally, openly hostile. Repeated convictions, with the inevitable four cell walls, often increase his mental deficiency, and, with the effects of alcohol thrown in, he is, after many years, sent to a reformatory where he remains for three years a further burden to the tax-payer, and, without any good result attained, he is turned adrift into the world again. In prison or reformatory he can have the necessary attention for his bodily ailments. If he is a lunatic he can be certified. But he is rarely a lunatic, or, at least, is rarely certifiable. Nor is he wholly responsible, but he is often capable of improvement under

instruction and can acquire a handicraft. A short prison sentence, however complete the methods of instruction, cannot give the necessary teaching to a person who is congenitally, or from want of proper upbringing, mentally backward. Experience shows that a long fixed term of reformatory detention gives little, if any, better result; I believe this want of good result is to some extent due to the *fixed* sentence.

The youngster, sentenced to a long fixed term, thinks he (or she) has been unjustly treated, and, to use a common expression, "Plays up, to get a bit of his own back." After a time he realises that he thereby makes his own existence more uncomfortable and gradually settles down to drag out a weary three years. The employment is not infrequently, for want of more complete system, quite unadapted for his (or her) future requirements in modern competition. But the present system does at least tend to show that there is often in the individual the capability of development under a proper system. The hardened recidivist does not want to improve, and the fixed sentence does not encourage him to make an effort against his natural inclinations. He knows he has a certain time to "do" and he means to get through it with as little discomfort as may be. The application of the indeterminate sentence to either of these classes of offenders would have the effect of bringing out an effort on the part of those who are capable of making one, serve to sift the improvable from the unimprovable, and protect society from the latter. For the efficient working of such a form of detention, an institution should possess better facilities for classification than at present exist and a complete system of industries. It should be a type of colony.

The classification of inmates and the teaching of industries could be rendered less difficult than at present by the existence of a system of grades, through which an inmate might earn his freedom by industry and good conduct. Final discharge from the institution would take place after a period of exemplary conduct, but a further period on parole would ensue, during which he would be required to report himself from time to time. Under some such scheme two objects might be attained: the reformed character would leave with a guarantee from the authorities that he possessed training of a certain kind, and at the same time the employer would be to some extent protected,

for on return to his former habits the offender would at once be collected for a further period of detention.

The question of economy is an important one, but it is reasonable to suppose that the cost of such provision as has been suggested would not exceed that of our present methods. Just now the number of persons under detention in inebriate reformatories does not, I believe, exceed 1,000, and they are distributed through thirteen reformatories. It is more than probable that such a number could be accommodated in one establishment at a lower cost and with better results. A small institution receives the same variety of cases as a larger one under the present system, and requires for good work as complete a system of classification and industries. In the largest of the present institutions a satisfactory scheme for these purposes cannot be arranged without very considerable increase in the cost.

Although in the vast majority of cases which come under observation the general features and the life and family histories show them to be degenerates, there are other cases whose alcoholism is undoubtedly the outcome of some other cause or condition, not always ascertainable, and for which detention in a reformatory is not suitable, or, at least, is not suitable under the existing methods of detention without an adequate scheme for classification. I refer particularly to cases which are the subjects of incipient mental disease. It is admitted that benefit does ensue as a result of the first few months' detention, but it is in the later stages when, having been restored to a state of health, the patient begins to realise more fully the meaning of three years' detention and a state of restlessness or brooding and despondency is apt to ensue, that further detention under the existing system is certainly not beneficial. There are also cases of advanced mental disease to which reformatory detention is obviously inapplicable. There is a third class, usually of a better social status and somewhat more refined than the majority, and on whom the association with the usual class of "reformatory" case has a morally deteriorating effect. Owing to the variety of cases which come under observation I would advocate the establishment of receiving houses, in which such cases as I have mentioned or other doubtful cases could be put under the observation of medical men with special experience in mental diseases. I feel sure that the presence of

such establishments in populous districts would be of great benefit, not only to the patients themselves, but also to both asylums and reformatories.

Whatever method is adopted in the future for dealing with the same class of case as is sent to reformatories under the present system, I cannot express too emphatically my opinion as to the undesirability and harshness of the fixed three years' sentence to all cases.

During the course of the year a number approximating half the female cases sentenced in England and Wales to reformatory detention come under my own observation, and I am strongly of the opinion that there are many cases in which such a sentence is entirely unnecessary, and that in by no means a few it is productive of mental deterioration. Such cases might relapse under any conditions, but I think this is unlikely.

There are many cases, on the other hand, to whom a fixed three years is insufficient, for they would probably never do well under any length of detention, and require supervision and control for the remainder of their lives.

In the foregoing remarks I have but merely touched on a matter, which is not only of immediate importance to the community, but one which, in the interests of the future welfare of the race, is deserving of the fullest consideration.

DISCUSSION,

At the Annual Meeting held at Wakefield, July, 1909.

Dr. MERCIER said the paper touched on a subject to which he had given a good deal of attention. He wished to offer his congratulations to Dr. Fuller for the admirable paper and the fruitful suggestions it contained. There was a good deal in it with which he could not wholly agree, and there was a good deal with which he was very much in sympathy. He would not now enter into the questions on which he did not agree with the author, as to the causes and the nature of inebriety, on which much could be said, and which was more or less speculative, but he was most heartily in sympathy with Dr. Fuller in deprecating the stupidity of the fixed three years' sentence. These people were sent to a State reformatory rather than to a prison, because it was felt that their condition was one which was at any rate as much a disease as it was a vice. And being a condition of disease these people were sentenced to a fixed term, in which it was, he supposed, anticipated that their disease would be cured, that it would require that time, and neither more nor less than that time. It led to what he could only call abominations. He had seen inebriates, people who had been committed for inebriety in those retreats for a period not exceeding three years, and that was a right and sensible provision, but, owing to the instructions of the Home Office that had become a term of *not less* than three years. In every case the three years must be completed before the case was discharged. It was abominable. He had seen cases which received all the benefit they were likely to get from their reformatory treatment in six months, and yet for two and a half years after they were ready for discharge they were kept by

the State in those reformatories, losing what ability to work they had when they came in. One man said to him: "I have forgotten the very names of the tools I used to work with at my trade, let alone the ability to use them." Another abomination was that when these people went out, at the moment their three years were up, they were entirely free, there was no further supervision over them, and in a considerable proportion of the cases they got into the hands of the police for drunkenness within twenty-four hours after their discharge. And, as if to render that event more certain, they were allowed, while in the reformatory, a sum of money, which was put by for them, and when they went out that money was given to them, an amount which was large in comparison with their usual means. When they relapsed and got into the hands of the police they could not be sent to a reformatory forthwith; they must be committed for fourteen days, and they must be committed three times more before they could go back to reformatory treatment. It was so grotesque and so unintelligent that it was difficult to believe, if one did not know the ways of Parliament, that such an enactment could have been sanctioned by the Legislature of this country. The committee on which he served made recommendations which did away with all that. It was at first proposed by the committee that an inebriate, whether he had been convicted before or not, if the magistrate was satisfied he was a habitual drunkard, should receive six months' detention in a reformatory followed by six months' probation, and if he broke down in probation, automatically he went back to detention for not more than twelve months. And at the end of that time he was to come out under probation, and if he broke his probation then automatically he went back for two or three years (he forgot which); but in no case was he to be at liberty, except on probation, and in no case was a sentence to be for a fixed minimum. He was always to be sentenced for not more than a definite period, and if he proved incorrigible even then he was not sentenced permanently; he had an indeterminate sentence, but he had his discharge on probation at the end of every three years. Thus he had chances of showing whether he was capable of maintaining his sobriety or not. The fact was that inebriates were on quite a different footing from that of lunatics. One could tell, with a fair measure of certainty, before the discharge of a lunatic whether he was sane or likely to conduct himself as a sane man. But one could not do that in the case of an inebriate; it could not be said whether the inebriate would return to his drink without actual trial. As it was necessary to send a man out and try him to see whether he could withstand the inclination to drink, every man ought to go out on probation. He wished to say one thing beyond that subject. He did not agree with what Dr. Fuller said about receiving houses. He did not see what good they were likely to be, because a receiving house was a place where a person was detained for not more than a fortnight, and he did not think that a fortnight's detention would be of any use to any inebriate under the sun—certainly not to an habitual drinker. But, apart from that, there was a point on which he thought there was a misconception, which he would like to remove before the session came to an end. Dr. Fuller spoke of people being unable to exercise self-control, and of the self-control of people being educated. He, Dr. Mercier, did not think it was very much a matter of self-control. The inebriates to whom he had spoken had described to him why it was they became inebriates. They never spoke of having had a craving for drink; not one of them said they drank because they had a craving to do so; they drank because they wanted to produce some special effect, which alcohol gave them. And often that effect was one which they could not be blamed for. They were overworked, and they found that the stimulus of alcohol enabled them to work more than they could without it. Or they had nervous symptoms which were combated and surmounted by alcohol. So that they might get rid of those symptoms they took alcohol as ordinary people took medicine. And when sober people talked of possessing superior self-control he did not admit it for a moment. He did not consider that his own self-control, as a sober person, was a bit better than that of the habitual drunkard. The reason he did not get drunk was that after he had taken a certain amount of alcohol it ceased to give him pleasure, and he turned against it with feelings of repulsion. There were many habitual drunkards on whom alcohol produced the same effect; after having taken a certain quantity they had a repulsion for it, and they could not go on drinking after that if they would. The difference was that in his own case the feeling of repulsion set in after a single glass of wine, but in the other case it did

not set in until the man had been drinking three or four days. But he did not arrogate to himself that he had the superior self-control of the two. He did not drink, for the simple reason that he did not care for it; the drunkard drank because he did care for it. It was quite a case, again, of: "But for the grace of God, there goes Richard Baxter!"

Dr. HEARDER said that at the establishment he was connected with they had been dealing with such cases for four years. Their difficulty was with the magistrates. The magistrates would not send cases unless they showed mental symptoms. They sentenced cases to from one year to three years; there was no set three years' sentence. If they were sent for three years there was no necessity for the institution to keep them three years if they were apparently fit to behave themselves when they went out. If they wanted to test their fitness they discharged them on licence, just as patients were discharged from asylums on trial. The inmates of the State reformatories were the dregs and scum of the certified reformatories. They were sent to Aylesbury and Warwick reformatories because they had been unmanageable, destroying the discipline at other institutions. He did not know that at the State reformatories the gratuity was given into the hands of the person discharged at the expiry of the sentence. They at his institution had never done so; they always handed it over to some responsible person, whether it were a probation officer, or the Discharged Prisoners' Aid Society, or some such body. When cases left efforts were made to provide them with employment, and a sum of money was handed to responsible persons on their behalf. The managers could license for any time—two and a half years or even longer. The form of the license was, that having received a written undertaking from So-and-so to take into care So-and-so, they made inquiries as to the respectability, etc.

Dr. MERCIER asked whether that had not fallen into desuetude on account of the persons not taking care of them.

Dr. HEARDER replied that that was not so in Yorkshire. He now had ten cases out on licence. The majority of cases were discharged by way of licence if they had been sent to the institution for a long sentence; but if for a short sentence they finished their sentence there as a rule. Dr. Mercier had said that he did not possess more self-control than the average drunkard, but he had not got such a low opinion of Dr. Mercier as that. The habitual drunkard got poisoned; he did not drink enough to get drunk. A single glass caused some to be raving. He had a plumber doing some work about the house, and he had a look round, and uttered the remark, "I have drunk more than all that crew put together." And he, Dr. Hearder, believed him. Those cases had not any mental stability, and their brains would not allow them to get drunk; they became disorderly in no time. They were disorderly long before they were incapable.

Dr. JAMES STEWART said he was aware of Dr. Mercier's pet idea concerning self-control, but he had the temerity to say he misused the term. And anyone who had had the experience which he himself had had would feel convinced that in certainly 70 *per cent.* of educated inebriates there was a loss of power compared with that enjoyed by most people one met in ordinary life. Self-control was a term which seemed to smack too much of the academician. They did not want to be using terms which the professor of moral philosophy would say they did not know the meaning of. But those who had studied the subject thought there was, in the case of the inebriate, a loss of the ability to restrain himself from doing what he knew to be wrong. He could tell the meeting of a man in their own profession in regard to whom it was most important he should stop at a certain point, which he himself knew it was expedient he should stop at. But his brain had been so affected by the taking of what was to him a poisonous dose of alcohol that he could not stop there. He admitted with Dr. Mercier that in many of the cases the man had not taken what most people would consider such a dose as to make him drunk. "Drunkard" was a term which had often been used improperly, as if it was synonymous with inebriety; as a matter of fact, a drunkard and an inebriate were two different people. The drunkard was a man who went deliberately on to bring himself into a condition which was that of a debased human being; the inebriate was a man who, however anxious he might be to restrict himself in the matter, did not possess the power which enabled him to stop at a certain point.

Dr. HUBERT BOND said the paper was a very valuable one, and he would like

to ask whether anything could be done by the Association to bring forward the goal which Dr. Fuller suggested, and which evidently Dr. Mercier considered so wise and beneficial.

Dr. MERCIER said a Bill had been drafted on the lines of the Departmental Committee's report, and it was ordered that the Association should send to the Home Secretary an urgent recommendation that the Bill should be proceeded with. It had not been proceeded with, and there was now no chance that it would be this year, and perhaps not very much chance next. But he thought the matter should be kept in mind, and it might be well for the Association, at the November meeting, to send a reminder to the Home Office that the matter urgently required attention.

Dr. FULLER, in reply, said that although Dr. Mercier held different opinions on the causation of inebriety to his own, it was at least a matter of great satisfaction to him that Dr. Mercier was in such unanimity with him as to the desirability of an alteration in the system. The whole object of the paper was to put before the Association the hopelessness of their position at the present moment, and if that discussion would eventually lead to a recommendation being made, it would be matter of still greater satisfaction. With regard to the question of self-control, it was now getting late otherwise he would like to enter into that matter further. He was not thinking only of the desire of those people for alcohol; their lack of control was evident in other things besides their consumption of alcohol. The desire for certain things might not be the same in all people. Some desired some peculiar effect from smoking, but he did not think people would say that in this respect they were superior to others. Many people if told they had got to stop a certain habit stopped it, but the people about whom he spoke had not got that power. He was very glad to know that the system of discharge on licence existed. They did not do it under his Board, because it was said to have been their experience that the fixed sentence of three years produced better results than letting men out on licence. That was further evidence of how necessary it was for the whole of that work to be under one control. He agreed that many of those people were unable to stand even a small amount of drink.

*An Autograph Account of a Case of Sane Hallucinations
due to Alcohol and Atropin.* Introduced by W. R.

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THE subject of the experiences about to be described is a literary man of great ability and a recognised authority in a certain department of learning, who had unfortunately been addicted to the abuse of alcohol for many years and had decided to try the effects of a course of atropin treatment. He was perfectly sane. Previous to his admission he had been practically living on milk and whisky for a considerable time, taking five or six glasses of the latter in the day. The whisky was at once greatly reduced, though not altogether stopped; and combined injections of atropin and strychnine were begun on the day of his admission (November 22nd), with dietetic and other treatment, but no sleeping draught was given either that night or the next. This was the first case which I had treated by the

atropin method, and I should not now commence the injections so soon after admission. No other case, of a good many since treated, has suffered from hallucinations, but they have often been met with by others.

It may be said at once that, with the exception of these experiences, the treatment was quite successful for over four months, the patient being weaned from alcohol without much discomfort and losing all taste for it. At the end of this time he received a severe shock in the sudden death of a near relative, whereupon the craving returned in force and he lapsed again and derived no benefit from subsequent courses of atropin treatment. He treated himself elsewhere by the "Normyl" method, however, and has now been perfectly well and a total abstainer for nearly four years.

The value of the description, apart from the vividness due to the patient's literary skill, lies in the circumstances that the experiences were observed by a man of such ability, that he was keenly interested in them, and that he was mentally sound throughout (except while under the influence of morphia given as a sedative and antidote, which rendered him delirious on one evening and night—that of November 25th). The fact that the description was not written until many months afterwards may be held to discount its worth to a certain extent, but the writer has an excellent memory, and comparison of his statements with my own notes taken at the time, as well as the recollections of my assistant and myself, show that his account is substantially accurate. The incidents are sometimes, naturally, related a little more fully than before, a few noted by me at the time are missing, and the experiences are spread over a day longer than they actually occupied—the latter slip being due, no doubt, to the confusion induced by the morphia and its results. An instance of omission is the fact that on December 6th, some ten days after the hallucinations had almost entirely ceased, the patient, while out walking, saw crowds of children, horses and carts, which were not there, and also heard people talking, all of which he has forgotten. But the details which he gives are essentially correct, and the description honestly portrays his impressions of an interesting, if unpleasant, experience. His account of the effect produced on his mental state is also, to the best of my judgment, accurate.

As regards the hallucinations themselves, it may be noted

that, notwithstanding the extraordinary realism of the phenomena, there was something unnatural about them in nearly every instance, which no doubt would have led to their detection as phantasms had the patient not been in a hospital where he knew that mental cases were taken. As a matter of fact they often were so recognised before they had ceased to be visible. Their almost entirely visual character is another point; but in one or two instances there were combined hallucinations (auditory and tactile also). Perhaps the most interesting circumstance, however, is that, according to the patient's statement, he was able to influence the expression of one of the phantasms by talking to him.

The following is his account of his experiences :

November 24th.—The first I saw of them was the brown man. He was leaning over my bed at arm's length; I could easily have touched him. He was a tall, dark man with brown eyes and beard, and he looked very grave. I was wide awake and took in every detail of his dress and expression, though it was night and the room was dark. His appearance surprised me very slightly, for I had noticed him walking about close by in the grounds outside my window, which was on the ground floor. I thought he had mistaken his bed-room, and said so. I had no suspicion that he was any other than the man I had seen walking in the afternoon. I fancied that he explained that he had come to see how I was getting on, and then he slowly backed towards the door and left the room. I noticed that he did not seem to open the door but simply went through it. Then for the first time it flashed upon me that he might not be a real man, and I remember that I was not exactly frightened but felt a little uncomfortable. I was not perfectly sure about the closed door; I might have been mistaken. I remained absolutely awake and alert. I did not light my candle. I was wondering if the brown man would reappear or come back, supposing he was really wandering about looking for his room.

The pale girl completely set at rest all doubts. She appeared soon after the brown man had left, but she did not come in at the door, but suddenly stood at the foot of my bed and gazed upon me. I had known her for years, and she was a close friend, but there was no smile of recognition on her face. She, too, was grave and sad-looking. She seemed offended and

refused to shake hands. She stood there for some minutes as it seemed. I realised almost at once that she was not flesh and blood, for I knew that she was fully a hundred miles away and was herself laid up, slowly convalescent after a tedious illness. By no possibility could she be at my bedside in that house in the middle of the night. She vanished as suddenly as she came. I went to sleep, but presently waking up I saw her again beside me—at least I saw her head on my pillow not six inches from my cheek. I was not frightened; I was glad to see her; her face was too familiar to me to be anything but a happy sight, but the gravity and distance of her expression discouraged any approach. I knew it was not she really, and I waited and watched her in silence. Presently her head was gone, and after some time, spent in wondering if she would return, and also whether I was going to be haunted by such visions and whether I should end in terror, I fell asleep. I slept well, without dreams.

In the morning my visions were as real to me as if they were present. They are just as real now, after many months, though I have never seen the brown man or the pale girl as visions again, while often meeting both of them in the flesh. The passage of months has not dimmed the vividness of any of my hallucinations. When the doctor came in on his rounds that morning I described to him what I had seen. I should explain that I was in a medical home and was being treated for the alcoholic habit and its effects. An essential part of the treatment was the hypodermic injection of a special drug, and this injection had been begun two days before. The drug was not in the nature of a sleeping draught and was not injected near bedtime, nor had I been given a sleeping draught on the previous night or at any time for years past. The doctor, who is a mental expert, did not appear surprised at my account of my experiences. He said the special drug he was “exhibiting” had been known to produce hallucinations, especially in certain conditions of the patient’s health, and he believed these delusions would pass off. I explained that my only anxiety was about my mental state. I was not afraid of seeing things, but I was undoubtedly afraid that the phenomena might indicate some permanent mental disease. On this point he firmly reassured me. He regarded the hallucinations as purely temporary and due to temporary causes.

Satisfied with this assurance I did not worry about the subject that morning. I am positive that I was not on the look-out for further developments. I went for a turn in the private grounds in company with one of the young doctors. As I walked down the avenue I noticed a cart-horse lying in a peculiar attitude in a ditch beside the road. I now know that there is no ditch there. I also saw a cart and horse going across the field. No cart was out there on that day, I was afterwards told. When we went into the garden I saw a spaniel coming towards me from a side path, and asked my companion whether he saw any dog. He said there was none. All these outdoor sights I took to be natural until assured that they were not. It was a bright sunny day, though the season was November, and in the afternoon I stood at the closed window looking out upon the wide lawn. On such a lovely day it was no surprise to me to see that numbers of people—patients, I supposed—were enjoying themselves in the sunshine. There were crowds on the lawn and on the broad path that ran between it and my window. The people were quite closely packed on the steps leading up to a door (as I supposed) on the left of my window. On the lawn itself women dressed in a very fantastic fashion were dancing wildly in the joy of the day. A carriage drove up on the path, with people in it—visitors, as I imagined, come to see their friends among the patients. The crowd on the lawn capered down gleefully to welcome the visitors and clustered in a sort of ditch which lay beyond the path. They all had very queer expressions on their faces, but this did not astonish me, because I was quite aware that the home was a large place full of all varieties of mental cases, and I was quite prepared to see mad people disporting themselves in the grounds. It never occurred to me that no doctor would allow male and female lunatics in an acute stage of dementia to frolic about together, and as I had never been in the patients' grounds I was not aware that there was no road by which a carriage could get to where I saw it, and no door or steps whatever on the left of my window. I simply took the whole thing as an amusing, yet rather horrible scene, in the grounds of a "lunatic asylum," and was glad that a stout line of iron palings separated the crowd from the narrow grass plot outside my window.

But it did not keep off their eyes. I shall never forget those

eyes, so preternaturally grave and melancholy, each and all fixed in a relentless, immovable stare upon me. I was looking at them from behind a muslin curtain, but they saw me clearly through it, and never took those sad eyes off me for a moment. The only pair of eyes that seemed to me to show any expression that was not profoundly grave belonged to a tall, good-looking girl, dressed in black silk and a large picture-hat, and carrying a parasol, who stood quite near me on the stone steps, and she certainly had a bold, challenging look that was comparatively cheerful. The other eyes all wore the same look of unearthly gravity with a curiously unpleasant depth of furtive cunning which struck me as characteristically mad. I watched them and they all watched me for a considerable time, till at last I became oppressed by their unblinking gaze and went back to my armchair by the fire and resumed my novel. I did not feel at all "creepy," for I had not the least suspicion that what I had seen was not real. I knew nothing about the other patients or their habits, and though I wondered at their being allowed to disport themselves so freely, with apparently no keepers, I ascribed their unwelcome observation of me to a natural curiosity about a new "inmate." I can honestly state that I had no idea that I was looking at phantasms of my own mind.

I remained sitting back to the window reading for a couple of hours, without disturbing myself to look out; but when at last I turned round I was annoyed to see five people standing at my window with their faces pressed to the glass, staring at me with all their might. I shall not forget those faces in a hurry: they were distinctly malicious. There was near the middle a round-faced, rosy, fat little man with white hair and a jovial look, contradicted by the predatory cunning of his eyes, which seemed to want to get at me. Next him was a slatternly girl with red hair, badly in need of a brush, who seemed very eager to get in, and made disagreeable faces. She had beside her an evil-looking old hag, with the most malicious eyes I have ever seen. A tall man stood at the end next her, and at the other end, next the fat old fellow, was an undersized, unshaven type of mechanic who followed my every movement with inquisitive eyes. They all took an immense interest in me, and jumped up and down as if they were raising themselves on tip-toe. They seemed to be standing precariously on some

narrow ledge in the wall and holding on to the window-sill. Sometimes they raised an arm and pointed to me. I heard no voices, but their mouths moved as if speaking. I concluded that some of the people in the grounds, noticing my withdrawal from the window, had pushed forward and climbed the railings to see where I had gone. I still believed them to be real lunatics, and their closeness made me uncomfortable.

There was no bell in the room and I did not want to make a fuss by going out in search of the doctor; but fortunately a servant came in to make up my fire, and I drew his attention to the nuisance these people were making. He took a quick glance at the window, and gave an odd grunt which displeased me. I said sharply that I would not allow this spying into my room, and he said he would send the people away. I heard him go out into the grounds by a door (which I afterwards found did not exist) in the passage, and order them away. They went at once, but came back almost immediately, and this time they became aggressive. The slatternly girl pushed up the sash, and putting her bare arms through the bars, lifted up my looking-glass from the toilet-table and began to draw it gently towards her, looking at me all the time with quick, furtive glances. I did not like it at all, and called for the servant and bade him fetch one of the doctors and stop the nuisance. A young doctor came and I showed him the girl in the act of pulling the looking-glass through the bars. I remember well the shock it was to me when he patted me kindly on the shoulder and bade me not to worry about it, saying that there was no girl nor any other person at the window, but I should soon be all right. Up to that time I had, curiously, never connected these visions with the confessed hallucinations of the preceding night; I had never suspected that the faces at the window were unreal. Now at last I recognised the fact that they were phantasms of my own brain, and the fact disturbed me much more than the belief that I was being bothered by inquisitive lunatics. I feared for my own sanity.

After the young doctor had gone—and with him the figures at the window—I settled down again, hoping that the illusion was over. But on turning round in my chair I saw that the mechanic had come back alone and was staring at me as before. After bearing it for a time I got up and pulled down the blind (my lamp was already lit), but whenever I turned

round there was the mechanic's eye peering at me through the narrow slit between the blind and the window-frame. I compelled myself at last to abstain from looking at him, but I was perfectly conscious of his gaze.

Presently I forgot all about him. My attention was suddenly diverted to a new appearance. Scarcely more than a yard from my chair, on the left, stood two little mannikins, about two feet high, very neatly dressed in black velvet, as I remember. They looked like well-behaved twins just dressed and brushed for going to church. They both regarded me steadily with the same curious inquisitive look which I had noticed in all the others. They evidently thought me a strange creature, much as the Lilliputians regarded Gulliver. I looked at them and they looked at me for some time. Then I got up and made for them, and they vanished; but on turning round to go back to my chair I found that they had apparently dived under the table, for there they stood at the other side—the right—of my chair, using a portmanteau in the corner, next the wall, as a convenient platform. I let them stand, immovable, side by side, grave and inquisitive as ever. I did not speak, and they did nothing but look. They rather amused me, they were so natty and gentleman-like in their ways. At last they seemed to bow me a sort of farewell—with their eyes only—and politely backed towards the door. I saw one of them lift his little arm and turn the handle. The door opened, and they were gone.

But they left their representatives, and I did not admire the exchange. Just in the spot where they had first stood, beside the table, were two monkeys of the usual organ-grinder kind. They squatted there and cracked nuts noisily (this was one of the few *sounds* I heard throughout these experiences) in their teeth. Presently they vanished from the spot and instantly reappeared at the other side of my chair, sitting on the portmanteau in the corner. There was one agreeable distinction about these monkeys: they did not stare at me with the horrible gravity of the humans, but their little eyes shifted perpetually like ordinary monkeys' eyes, and though sad, that after all is characteristic of the whole tribe. Still, I did not like the presence of these little beasts, and after a time they so oppressed me that I got up and left the room in search of company. There was a doctor's study about twenty yards down the passage,

and there I went. On the way I had to pass the open door of a housemaid's office, which was unlighted, and there close to the door I saw a figure leaning as if on the watch. Further on was a stove, and in front of it crouched a woman apparently putting on coal. I was perfectly aware that no such persons really existed. When I got to the doctor's study I found it empty: he was away with some patient. The blinds of the two windows were up, and there to my disgust I saw my five friends again—the fat old man, the slattern, the old hag, the mechanic, and the tall fellow—all jumping up and down and pressing their faces to the glass to have a good look at me. There was a kind of devilish glee about their expression and attitude which was uncomfortable. They were evidently triumphant over my annoyance at this unexpected *rencontre*. When I turned my eyes away from them to glance at the other window, there they were at once. I had clearly not improved matters by my change of room, so I went back to my own, where I found the monkeys still in occupation. The doctor came in during the evening, and I told him what I had seen and still saw, for the monkeys remained munching their nuts all the time he was there. This was not usually the case, as I found in subsequent hallucinations. As a rule the entrance of anybody into the room was the signal for the instant disappearance of all my *other* visitors. In the same way a sudden movement or “pounce” on my own part would generally put all apparitions to flight.

I do not remember that I saw anything after going to bed. I had a sleeping-draught. The next morning (25th) I was perfectly clear in my head; but in walking in the grounds the animal hallucinations recurred, and towards night matters became decidedly more interesting. My friends the monkeys reappeared, and presently the corner of the room became the scene of a number of incidents. First a whist-party was got up, with my portmanteau for a table. I noted especially an old man with a long beard, and an old lady, a diminutive Mrs. Battle, intensely absorbed in the game. So were all the four tiny players, and when I leaned over to watch the play—I could see the cards plainly—they were obviously annoyed, and the old gentleman looked daggers at me. At the same time a girl made herself very comfortable in a sort of cot against the wall next to the whist-party. She could not have been more

than three feet long, but her head seemed of the normal size, and she had a decidedly unpleasant, not to say wanton, expression. Her cot must have been composed of some newspapers thrown aside in the corner, and I have a recollection that they seemed to rustle under her movements, for she was continually curling herself up and then uncurling. I liked her less than any of my previous visitors; but another soon appeared, who struck me as equally uncanny. This was a precocious imp of a baby, who sat on the foot of my bed and grinned impudently at me. I was so outraged by this that I flung a stick at him, whereat he vanished from the top of the bed, but instantly reappeared, making faces at me from under the end of the valance. I rattled my stick under the bed, and forthwith there he was on my pillow. I began to think I would try company again, and set out for the young doctor's study. I was the more inclined to do so because just as I was rising from my chair to go a horse's head slowly reared itself behind my washstand (which stood flat against the wall, with no space between), and craning over began to drink the soapy water. This was a little too much for me, and I made for the study, passing again the figure by the door and the woman crouching before the fire. However, I found the study empty of doctors, but filled with a large party of spectral guests, ladies and gentlemen, in evening dress, playing cards, or chatting (though I heard no voices), or carrying on what appeared to be pronounced flirtations. I went back past the woman at the stove and the other dark figure. I did not like passing them, but I would not shirk it: without being exactly frightened I felt "creepy," and had to hold myself pretty tightly in hand.

That night the doctor proposed that I should have a man to sleep in my room in case I was disturbed, and after some demur—for I hated to show the white feather—I agreed. As it turned out, the man's company was a decided relief. It was indeed a remarkably lively night. I remained wide awake long after the man had gone to sleep. There was a bright fire and I could see every part of the room. The first thing that happened was the slow opening of the door. It opened only a little, just enough to let a person through, yet at first no one came through. Then I became aware of an eye reconnoitring the room through the crack at the hinges of the door, and, oddly enough, the door was hung on the wrong side; it really

opened on the left, but that night it opened on the right, the eye peeped through by the hinges on the left. Apparently satisfied by its inspection the eye was withdrawn, and then five or six men crept stealthily into the room, glancing suspiciously at my bed, and then, seeing me apparently asleep (for I had nearly closed my eyes, to give my visitors fair play, and was watching them through my lashes), they all went to the fireplace. The fire evidently needed making up, for they moved a chair or two close up to it, sat down, and began shovelling on coals. Two of them came up to my bed; one sat at the foot, and the other leaned over me, tapped me on the chest, and carefully examined my eyes to make sure that I was asleep. I confess that when he bent down I kept my eyes shut tight. Then they all grouped themselves round the fire and I heard them whispering. They were picturesque fellows, typical stage bandits, in velvet jackets, and shorts, and silver buckles, and all the rest. They had a proper truculent air which compelled me to lie as still as a mouse. Presently a couple of them deliberately sat down on my attendant's pillow. I called to him for fear he should be hurt—it is clear that at this moment I was not able to distinguish the hallucinatory character of the appearances; he woke up and said there was no one in the room. The bandits then crept away to the door in a gliding, stealthy movement, quite in the "Surrey-side" manner, and went out, to my unfeigned relief.

Hardly had they gone, however, when a very solemn man with a long brown beard seated himself beside my bed. The bed was close against the wall, yet he was seated on the wall side as though in a niche. I could only see his torso, and as he was not two feet from my face I wondered where he put his legs. I spoke to him and told him to go away, quite politely. I did not wish to make him angry. He neither moved nor spoke, and unlike the others, never looked at me but stared fixedly before him. The attendant woke up, hearing my voice, and assured me that there was no one there. But there he was all the same, the long-bearded man, and it was an infinite time before he vanished. It was a good many days before I could go to sleep without glancing at the place where the "niche" ought to have been to satisfy myself that my friend was not there.

I suppose I must have slept after that, and when I woke it

was about 7 a.m. and the attendant had already got up and gone. His absence was amply compensated by a perfect *levée* of early visitors. First I noticed a little girl in a black dress and very wild, frightened eyes. She went up to the corner of the room where my washstand was. It was (apparently) not flat against the wall as it had been when the horse drank out of the basin, but stood corner-wise, and there was a much bigger dressing-glass over it than really belonged to it. The little girl stood and admired herself frankly before the glass; then she deliberately undid her black frock and slipped it down to the ground and stepped out of it, just like any other girl, and then proceeded to put on a pale green frock. When this was done she ogled herself delightedly and posed before the glass. Then she brushed her long yellow hair carefully—with my brushes, a man's brushes, not a woman's handled brushes. I saw it all clearly, but if I moved and got up on my elbow to observe her, she instantly darted a frightened look at me. At last I got out of bed and went to investigate her and found only my towel-horse and the toilet-table and wash-stand in their usual places against the wall, undisturbed (I did this more than once). As soon as I returned to bed, however, she came back to the glass, and there she remained until the arrival of the doctor more than an hour later.

Meanwhile my room had become densely populated. At the foot of my bed stood a chest of drawers; beyond that was the portmanteau already referred to, in the extreme corner. People began to come in gently from the corner where the portmanteau was. An old woman and her daughter (apparently), the latter nursing a baby, came slowly and furtively and sat down upon a couple of (quite imaginary) chairs in front of the chest of drawers. Several men followed them. One sat on the chest of drawers; another stood between it and my bed and distinctly glowered at me—he had a very forbidding, dark visage. Others leaned against the chest of drawers, and among them was a fair man with light hair and a weak face with whom I became quite intimate. I used to arrange the bedclothes so as to intercept my view of the glowering man as far as possible, but I rather liked the appearance of the fair man: he looked so good-natured. I talked to him, asked him why he was not at work at this time of day—for he had the air of a carpenter—and remonstrated with him on the vice of idleness. I chaffed him

about his melancholy air, and looking into his eyes I even succeeded in making them *smile* repeatedly. He was the only phantasm on whose expression I had any influence. When I talked to him, the others looked at me with keen interest. The women crept forward as if to listen, but I waved them back. As usual, any sudden movement or leap out of bed sent the whole crowd packing at once, only to return one by one, very stealthily, after I had gone back to bed again. Two cats came up close to me on the floor. I lighted a match from the box by my side and singed the whiskers of one of them. It started and shook its head, and both cats kept out of arm's reach. I was still chatting to the fair man when the doctor and his assistants came in on their rounds. On their entrance the men and women and cats and the little girl at the looking-glass precipitately vanished. The doctor and I conversed perfectly normally. I was quite rational and clear-headed, and we laughed together over my queer hallucinations.

I am not clear about the rest of that day or the following night; but I am strongly under the impression that the brigands came back at night—I recognised them perfectly—and that my morning visitors did not forsake me, including the nursing woman and her mother, and that I chatted again with the fair man, and grew quite interested in him. After that the doctor thought I had had enough of such experiences. He had already stopped the hypodermic drug (on the evening of the 24th), and now he gave me a dose of morphia; and as that did not send me to sleep he gave me a second dose. I had a wild night, and saw and did all sorts of extraordinary things: but the effects of morphia are well known and have nothing to do with the hallucinations here recorded, which occurred when my mind was unclouded. After a heavy sleep I woke untroubled, and have never experienced the slightest repetition of the hallucinations I have described, though the same drug was repeated in three courses extending over many weeks.

There remained, however, a curious optical perversity which may have some medical interest. The first peculiarity I noticed, about the time when the human and animal hallucinations appeared, was the funny way in which my ring persisted in working itself up to the middle joint of my finger, and then slowly working back to its usual place. I showed this in all seriousness to the doctor, but he could not detect it. I could

only repeat with conviction, *ep̄pur se muove*. One night I asked the attendant why there were fleas in the room. I had certainly brought none with me, and he maintained that none were known in the room, yet there they were, crawling up from under my shirt-cuff, and insinuating themselves between my fingers. I killed hundreds of them, and showed the attendant one which I had smashed upon a piece of paper—where he admitted there undoubtedly was a stain, but equally certainly no flea. This illusion was not repeated, but something on a larger scale interested me a day or two later. I was talking to a friend, and I asked him to notice how the newspaper was heaving up and down, as though something were moving under it. He lifted it up and saw nothing; but *I* saw a number of big grasshoppers wriggling about, and I saw more of them in a medicine glass that was on the table. I said nothing, as I did not know whether he had heard of my hallucinations, and I did not care to discuss this species of aftermath, which, as a matter of fact, did not recur. Once (December 3rd) I tried to pick up an imaginary playing-card from the table. The only thing that remained, and this lasted for weeks, was a singular appearance of what looked exactly like straws. I saw these continuously in the red of the fire; I saw them in the glow of my pipe where I lighted it; and I saw them forming a criss-cross on the wall-paper, and they continually moved. This was the last enemy to be overcome, and it was very persistent, and had not entirely vanished by January 29th. My eyes at the time were causing me trouble, but no pain. I saw everything in a haze, and could not read even large print or music. My chief resource of an evening was playing "Patience," and I found that I often made mistakes, especially in the *red* cards, by not distinguishing a pip. For instance, I was constantly mistaking the three of diamonds for the two, and the seven for the six. I believe the doctors recognise this as a definite ophthalmic disease, and connect it with smoking; but as I have been an inveterate smoker for a score of years, and never experienced this confusion before or since, I am forced to believe that there must have been some ancillary cause. I am smoking as much as ever, and my sight, though always myopic, is remarkably strong and distinct.

The main interest in the hallucinations I have described appears to me to consist in two points. First, they were

conscious hallucinations. Except in the first appearance of the brown man (who might have strayed into my room) and the out-door sights which I took to be real at first, and once or twice at night time, when my mind seemed to be a little confused, I knew perfectly well that I was looking at things which were not real; and whilst looking at visions which I knew to be unreal, I talked rationally to friends or turned to my book, without any abrupt transition or interval of recovery. There was no "trance." I never experienced anything approaching to panic fear, although some of my hallucinations were calculated to make anyone "creepy"; and the doctor said that in all his wide experience he had never come across anyone who "kept his head" so thoroughly and went through such trying mental experiences in such a spirit of almost scientific observation. The second point is that, after the first appearances of the brown man and the pale girl, no single face of the score and more that appeared to me was familiar. I never saw one of those faces in all my life; of that I am positively certain. *How*, then, did I create them? or *did I* create them? I am not prepared with any speculations about the "subliminal consciousness" or "reminiscences of pre-existence," though I think my experiences will interest those who have made a study of the late Mr. F. W. Myers's *Human Personality*. I simply record truthfully and without exaggeration precisely what I saw and how I regarded these visions. I may add, to prevent misconceptions, that I am not in the least which is called "psychic," never attended a "spiritist" *séance* or met a medium, and never even thought I saw a ghost. My doctor's *testamur* precludes all suspicion of either fiction or insanity.

(¹) Read at the Summer Meeting of the Irish Division, July 1st, 1909.

DISCUSSION.

Dr. DRAPES said that the description was valuable, inasmuch as patients were rarely intelligent enough to describe their hallucinations. The case presented points of similarity to one of which he had published an account some years ago. In that case, too, the patient saw children, which changed into other forms; also brigands, bandits, and persons of a malicious cast of countenance. As for the seat of origin of the hallucinations, it might be anywhere; the appearance of straws would start in the retina, but others must have taken rise in the higher centres of the brain. Hallucinations were akin to dreams, in which the higher consciousness was abolished.

Dr. O'NEILL related a curious case in which the patient believed that he was climbing a spout to the roof and then descending through the chimney, and would go through actions appropriate to each part of this performance. This took place every morning for some time, and then the hallucinations suddenly vanished.

The CHAIRMAN mentioned a case in which a man who was being treated with large doses of morphia suffered from hallucinations, which disappeared when the morphia was stopped.

Dr. OAKSHOTT alluded to a case under his observation in which a lady was annoyed by a nude female figure in one part of her looking-glass, which could be covered up and kept out of sight.

Dr. DAWSON, in replying, said that in this case some of the hallucinations were certainly due to retrobulbar neuritis, which gave rise to a central scotoma for red. In it the higher consciousness was not abolished.

The Leucocyte and the Acute Insanities.⁽¹⁾ An Epitome of Clinical Observations by COLIN McDOWALL, M.D., M.R.C.S., Assistant Medical Officer, County Asylum, Warwick.

It is indeed a true saying that to be successful in the treatment of disease clinical observation must be accompanied by biological and bio-chemical research. Yet the practice of medicine in times not so very remote was chiefly based on careful observation and common sense. In by far the majority of diseases the ætiology was not understood, and this was strikingly true of the acute forms of mental derangement. Still, devoted workers and searchers after truth continued their investigations on the dead and their experiments on the living. Gradually appliances were improved and new methods pursued, and with such brilliant results that at last the true cause of infective disease was discovered. One by one bacteria were isolated and studied, and thus a great world of medical research was opened out and results obtained which have already wrought untold blessings to humanity.

Whilst it must be gladly admitted that general medicine has wonderfully advanced, we must ask ourselves if progress has been equally marked in all of its many departments. The answer can scarcely be in the affirmative if we review the past and present of medical psychology. There are now larger and better equipped asylums; the number of troublesome patients appears to be gradually diminishing as the result of increasingly humane treatment; there is possibly a slightly increased percentage in recoveries and a diminished rate of deaths; but are we, like Sydenham, after all only working in the dark? Is our treatment directed merely to symptoms, and do our patients simply

recover by being judiciously and carefully left alone? Has the one essential factor for accurate and scientific treatment been discovered, namely the cause? It is to be feared that to these searching questions the answers are unsatisfactory. Yet during these years there have been many honest and devoted workers in this and other countries. Millions of microscopical slides and preparations of nervous tissue have been examined and most valuable additions made to our knowledge of the physiology and pathology of the nervous system, but it must be admitted the results have been very disappointing when viewed from the point of clinical medicine. Just as the examination of a cirrhotic liver or kidney does not reveal the cause of the mischief, so macroscopic or microscopic examination of the nervous tissue of a person who has died insane fails to reveal the ætiological factor responsible for the production of the pathological changes present. The examination shows the result of, it may be, alcohol or syphilis, but the essential causal factor itself has long passed out of the subject's system. As a result of the failure of pathological observation to furnish assistance in the treatment of mental diseases, men looked round for other fields of work and observation. This has resulted in the examination of the blood in cases of acute mental disease, a branch of original research chiefly undertaken and encouraged by the Scottish school of psychologists.

This paper is the outcome of three years' work upon the blood of the acutely insane. The number of cases systematically examined was forty-eight. Observations in many cases were made daily, and occasionally more frequently, during several months, so that the results recorded in this essay represent several hundreds of blood-counts. The chance of phenomena the result of physiological processes being included has been guarded against as carefully as possible. No statements are made or conclusions arrived at as the result of isolated observations, but only after a careful review of the data at my disposal.

Chief attention has been paid to the white blood-cell, its absolute increase as represented in leucocytosis, and the relative increase or diminution of its varieties, especially in regard to the finely granular and coarsely granular eosinophile leucocytes.

A Thoma-Zeiss hæmatocytometer has been used throughout in the estimation of the leucocytosis. For the differential count

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the white-blood elements were examined under the oil-immersion
lens after they had been stained by Jenner's method.

The forms of mental disease dealt with are excitement with
confusion, frequently spoken of as acute mania and depression
with excitement. For the sake of clearness these two psychoses
will be briefly described.

(I) *Excitement with Confusion (Acute Mania).*

This disease has a prodromal period usually of some days,
during which time the patient becomes less restful, less in-
clined to follow his usual occupation, and is easily upset.
Sleep is curtailed or abolished. He wearies himself with long
walks or exhausting manual labour to remove the restlessness
and alleviate the want of sleep. Finally, there is an outburst
of acute excitement. The climax is usually reached at night,
with the well-known symptoms—ceaseless restlessness, in-
coherence, extravagance of word and act. Extreme rapidity
of cerebration is also one of the leading features. One thought
banishes another from consciousness before it has had time to
ripen into action. The exultation of self is morbidly developed.
The patient is boastful, extravagant, arrogant, and resists
interference. By turns he is facetious, abusive, and aggressive.
He loses all sense of decency, removes his clothing, exposes
himself, is obscene, filthy, disgusting. Delusions are un-
common. The patient may make extravagant statements re-
garding his power, his wealth, and so on, but these can hardly
be classed as true delusions; they are rather the fanciful
exaltation of his own personality. In feeding, these patients
are often ravenous, filthy, degraded. Sleeplessness and restless-
ness by night and day are constant signs. It is not surprising
that anæmia and rapid loss of weight are often marked.
Gradually, or it may be by crisis, an improvement sets in after
an interval varying from hours to weeks. They sleep better, eat
more decently, become cleaner in their habits, less destructive,
less loquacious, and more settled. Once commenced, a rapid
convalescence is generally the rule. Regarding the ultimate
recovery of these cases, it is not always easy to obtain accurate
statistics, but Bianchi estimates that from 80 to 90 *per cent.*
recover. One important sentence may be quoted *in extenso*
from that author: "The cure may be instantaneous, and

happen in consequence of intercurrent diseases, after blood-letting (Raggi and Bergonzoli), pleurisy (Wellendick), or pharyngitis (Schultze)." In the light of modern scientific research these cases assume a new aspect, and point to paths of inquiry and treatment unthought of in former times.

(2) *Depression with Excitement.*

An onset, which is usually gradual but of shorter duration than in the former disease, leads up to a condition of misery and dejection. Hallucinations of a terrifying nature are frequently present. Acting under their influence suicide is frequently committed, and murder is not an unheard-of occurrence, though these tragedies may not have received the attention they deserve. Restlessness is a constant and prominent symptom. It may be a state of continual unrest, or periods of quietude interrupted by exacerbations of excitement. The patient may jump out of bed shouting and crying, dash for the windows, and make frantic efforts to escape; not that he wishes to escape from the building, but rather from his own overwhelming terrors. There is probably constant tossing to and fro in bed; and the refusal of food and entire absence of sleep are invariable signs. When less agitated the patients may sit up in bed moaning and lamenting their fate. Life is like one long lane of misery, and hope is gone. Incoherence is common. If spoken to sharply they may halt in their wailings, only to break out with renewed vigour next moment. They ask for poisons and draughts to end their lives and rid them of their miseries. Occasionally erotic feelings overcome the patient, and acts of gross indecency may be committed in the hope that these may dull their grief. Deliria of various kinds are present in different subjects. Ideas of negation are common. The patients imagine they have no right to live; that they do not live; or that the world is at an end. Religious delirium is less common, while that of persecution is frequently met with. During the delirious stage of the disease there is usually a slight febrile temperature. Untidy and careless in their dress these people are frequently of filthy habits when the disease is at its height. The malady may be of long duration, but some cases of it get rapidly well under suitable treatment.

A fatal termination is not uncommon, while secondary dementia is an ending only too frequent.

It is necessary to describe the changes found in the blood in the two diseases separately.

(1) *Excitement with Confusion.*

Leucocytosis is an invariable occurrence in every recent primary case of this disease. In secondary or recurrent attacks the results are not so uniform. There is a probable explanation for this phenomenon, which will be dealt with later. Another exception must be added, and that is in the case of the senile, where in my experience it is rare to find any marked reaction in the blood.

The extent of the leucocytosis is variable. In one instance it was as high as 24,000, and in several examples 20,000 per c.mm. The average limit of the increase of white cells is anything between 10,000 and 16,000.

The character of the leucocytosis is more or less constant; very rapid falls are unusual and must be viewed with suspicion, as they may be due to some error in technique or to physiological processes. At the beginning of the attack a more or less continuous augmented white cell-count is found; a hyperleucocytosis of 20,000 is not uncommon. During this time the patient presents all the symptoms of acute excitement. This condition may continue for some days, but as the more acute symptoms begin to subside the leucocyte count slowly falls. It then fluctuates between 10,000 and 12,000, or even higher, but always tending to subside. The leucocytosis may gradually continue to fall, and the patient's condition coincidentally to improve, when an important change takes place in the blood—the secondary leucocyte rise.

This phenomenon was first described by Dr. Lewis Bruce, who found it well marked in patients who made rapid recoveries. Following the second leucocyte rise the white cell-count may remain elevated or it may decline, the latter usually occurring. The fall in this case, in comparison to the fall following the primary leucocytosis, is usually less gradual. When the recovery of the mental state of the patient is complete, the leucocyte count may be either normal or slightly above that point.

In secondary or recurrent cases of acute mania leucocytosis is the exception, and when seen is of limited dimensions and transient in character. Again, in the senile lunatic it is exceptional to find any marked reaction. This is no more than we might expect to find if the facts of the case are briefly reviewed.

The leucocyte stands for the natural antagonist of infection. If the function of the white cell fails, and its numbers are not increased, the individual is practically unprotected from any invading micro-organism. The result is, that any person susceptible to the psychoses, whether by heredity or previous attack, or by any other factor which lowers the resisting power of the individual, readily succumbs, and he consequently becomes insane. Secondary attacks are always more tedious, and take a longer time before convalescence is complete. The period of excitement may be short, but the after-progress of the case is protracted, which circumstance is accounted for by the slight resistance offered by the patient; in other words, leucocytosis is of limited dimensions.

Much the same is found to occur in the senile lunatic. The powers of resistance of the old are small, consequently leucocytosis is the exception. So it is that people who have passed middle age, if attacked by acute insanity, seldom do well.

Percentage Changes in Leucocytes.

In health five varieties of white cells or leucocytes are described as being present in the blood. Only two of these will be referred to, namely, the polymorphonuclear leucocyte and the eosinophile leucocyte. The former has been variously termed "polynuclear," "neutrophile," or "finely granular eosinophile cell." The coarsely granular eosinophile leucocyte is, like the former, an acid staining cell, and receives its name from the size of the granules closely packed together in the cell protoplasm. It is more usually spoken of simply as the eosinophile cell. Both these varieties of leucocytes have their origin in the medulla of bones, and have been termed microphages to distinguish them from the macrophages, as exemplified in the remaining leucocytes, which owe their origin to the spleen and lymphatic glands.

The polymorphonuclear leucocyte forms, in health, about 60 to 70 *per cent.* of the total leucocytes. The percentage value of

the eosinophile cell is said to be from 2 to 4. This latter count is in all probability rarely found, and a more correct estimation of the percentage value of these cells would be about 2. In excitement with confusion the polymorphonuclear count may, at the commencement of the attack, reach over 90 *per cent.* These high percentages are found chiefly in primary attacks, and in those whose general aspect is in itself sufficient to suggest a toxæmia. Excitement of itself does not produce either a leucocytosis or an increased neutrophile percentage.

In persons who have previously suffered from some form of insanity the leucocyte phenomena are not so marked, though exceptionally an increased neutrophile percentage is found. In order to make these statements clear a table is here introduced. The individual cases have been selected as typical examples of the disease under discussion and not in any way to support any theory.

First attack.			Secondary attack.		
		Poly. per- centage on admission.			Poly. per- centage on admission.
F. M. C—	.	94	M. E. R—	.	73
M. E. W—	.	81	E. C—	.	69
B. P—	.	85	S. B—	.	74
M. J. T—	.	92	S. E. L—	.	79
J. L—	.	68	Average	.	73
Average	.	84			

The course of the neutrophile leucocyte count is usually identical with that of the leucocytosis—that is to say, that whatever marked increase of leucocytes is found is usually associated with the polymorphonuclear cell. Occasionally a leucocytosis occurs in which the finely granular eosinophile cell is not greatly increased, but this is the exception.

When reviewing the prognosis as revealed by the blood this subject will be gone into more closely.

The eosinophile leucocyte remains to be dealt with in its relation to acute mania.

The percentage value of this cell may reach as high as 10; some observers have found the extreme count of 20 *per cent.*

In recent attacks it is found usually at the commencement of the acute symptoms in a proportion which varies as the ultimate termination of the disease varies. In cases which recover

there is found at the commencement of the attack an eosinophilia which alternates between 3 and 10 *per cent*.

This high percentage value continues frequently throughout the entire illness. It is notable that in secondary attacks a very well-marked eosinophilia is common when the symptoms are most acute, and this increase of the coarsely granular cell is found throughout the disease.

It is very difficult to put an exact interpretation upon these phenomena. The coarsely granular eosinophile cell is still a subject of controversy in the medical world, and its function has not yet been accurately defined.

(2) *Depression with Excitement.*

Leucocytosis is found to be well marked at the commencement of the disorder. A count of 33,000 white cells per c.mm. was noted on admission in one instance. The extent of the leucocyte count varies as the severity of the individual attack varies. However, it has been my experience to find a more marked reaction in cases of depression with excitement, when really acute, than in excitement with confusion when the symptoms are correspondingly severe. The average reaction of the two diseases is, however, very much the same. This remark refers strictly to average attacks and not to those of the ultra-acute variety. The subsequent course of the white cell-count in this disease so closely resembles that in acute mania that further comment is unnecessary.

Percentage Changes in Leucocytes.

The polymorphonuclear cell is always increased in depression with excitement, and it has in one case of my series reached 94 *per cent*. More usually the percentage value of these cells varies between 80 and 90. Dr. Bruce has noted that there is less failure of the production of the polymorphonuclear element in excited melancholia than in excitement with confusion. As the more acute symptoms pass off the percentage of the neutrophile cell slightly decreases, but not so markedly as in acute mania. Later, as the patient's condition gradually improves, the neutrophile cells continue to diminish, but it is exceptional for them to fall below 80 *per cent.*, at which level they generally remain till convalescence is complete.

Eosinophilia.

Having dealt with the finely granular eosinophile cell it is necessary now to refer to the coarsely granular variety. In depression with excitement it is exceptional to find a single eosinophile cell in the early stages of the disorder. It has never been my experience to find any increase in their numbers. Anything approaching an eosinophilia has never been noted.

This is not the invariable experience of other workers in this subject. In some instances no eosinophile cell entered into the percentages throughout the entire illness; in others not until secondary dementia began to show itself were any of these cells noted, and then only as isolated units. When, however, the mental condition improved considerably, and when all symptoms of restlessness, excitement or agitation have disappeared and the individual is well on the way towards recovery the eosinophile cell returns.

Here, at a stage when my remarks upon the actual clinical features of the two disorders are practically concluded, it may be interesting to refer to two tables which have been compiled with regard to the eosin cell. These observations were made on the day of admission or the day following.

Excitement with confusion.			Depression with excitement.		
		Percentage of eosinophile cells.			Percentage of eosinophile cells.
G. S. B—	.	4	M. E. S—	.	nil.
M. E. W—	.	10	E. G—	.	1
S. E. L—	.	9	M. P—	.	nil.
S. B—	.	4	D. W—	.	„
M. C. R—	.	7	E. D—	.	„
E. C—	.	2	M. J. T—	.	„

Leucocytosis has come to be regarded as one of the most constant signs that microbial infection has taken place. Unfortunately the observations published regarding the discovery of specific micro-organisms for certain forms of the psychoses have not as yet been entirely corroborated.

Dide, working with Sacquépée, has isolated a micro-organism in cases of dementia præcox, which, however, they did not consider specific. Bianchi and Peccinino, working in collaboration, isolated from the blood in a case of acute delirium an organism of the streptococcic group. Rasori also found in the same

disease a similar but not identical organism. Many other observers, both in this country and on the continent, have described microbes, which, though not isolated examples, could not claim to be specific.

One of the difficulties of isolating a specific bacillus or coccus, as the case may be, is that animals are immune to insanity, at least in the forms that affect man. Here again in all probability we are dealing with the leucocyte, which creates in the animal organism a natural immunity to infection.

Many beautiful experiments have been made by Metchnikoff to demonstrate the vital importance of the white blood-cell. For this purpose he has used creatures low in the animal scale, and amongst others the daphnia, a small crustacean found in fresh water. The micro-organisms used were the monosporea. The spores of the parasite are swallowed with the food and eventually reach the body cavity of the host, where they are immediately attacked by the leucocytes of the blood. The spores are subsequently ingested by the phagocytes, and the animal suffers no harm. The animal readily succumbs, on the other hand, if through any circumstance the leucocytes fail in their work. Metchnikoff remarks that the constancy of inflammatory reaction—that is, leucocytosis—in natural immunity is the best proof of the fact that inflammation is a phenomenon useful to the animal organism in its struggle against microbial invasion.

Nature's two means of getting rid of micro-organisms are either by mechanical means, as in the use of tears, urine, etc., or by the blood-cell elements, the phagocytes. As the result of the constant observation of a leucocytosis in the two insanities under discussion, there at once arises the suggestion that here also we have to do with disorders the result of bacterial growth.

As previously stated, numerous observers have found, we might say, as numerous micro-organisms in the blood of the insane. That these two psychoses are due to bacteria is in every degree probable. There are found experimentally in actual disease, as in Nature, numerous examples of the importance of phagocytic reaction and of intra-cellular digestion in resorption and immunity.

My examinations of the blood have failed to reveal the presence of any organism which could be readily identified, and

this is no more than we anticipated. This work has been undertaken rather to support the suggestion that the acute insanities are the result of bacterial growth than to isolate and identify the bacteria present.

Smallpox is perhaps the best example of a disease due to micro-organisms, but one in which the actual proof, that is, the discovery of the specific microbe, is wanting. The disease is infectious, it is readily communicable to animals, and, still more important, a vaccine has been in general use for many years by which a partial or complete artificial immunity from this malady can be produced. Measles is another infection which there can be little doubt is due to a specific microbe—again the actual proof is wanting. Possibly the minuteness of the bacillus or coccus is the cause of our failure in its discovery. The solution of these difficulties must now only be a question of time, but they are real difficulties at the present moment.

It is by no means necessary that a disease, proved to be due to a definite microbe, should show the presence of the organism in the blood. Here another matter must be referred to, and that is the localisation of bacteria. The best examples of this phenomenon are the tetanus bacillus and the cholera vibrio. In the disease the result of the growth of the former micro-organism there is proof that the bacillus does not circulate in the blood; in fact it is certain that it remains fixed at its primary point of attack. The blood clearly demonstrates the presence of a toxin, which has a generalised effect upon the patient, and which can artificially be made to produce in animals all the cardinal symptoms of the primary disease.

In cholera the intestinal tract is the limitation of the habitat of the comma bacillus. In this disease also the general effect of the toxin is very clearly evident, though any blood-culture experiments would give absolutely negative results.

To turn now to another example which may help to account for the apparent absence of the micro-organisms responsible for insanity.

Though during life cultivation of bacilli can readily be made from the blood, yet it does not follow that *post mortem* the same result can be attained. In the septicæmia of geese an organism can be isolated from the blood of the fowl during its life, yet after its death the result is negative. In the case of

typhoid of the horse the result is in every way the same. May it not be so in the psychoses of man?

It has frequently been suggested by various writers that the alimentary tract appears to be the centre of infection. The difficulty met with here is one of mixed infection. Though it is not by any means essential to have a specific micro-organism in every disease, yet it is more usual and scientifically perhaps more satisfactory. The hordes of cocci and bacilli of the intestinal canal tend to make the search for any particular organism most difficult.

One naturally looks for points of invasion when dealing with what we are suggesting are infective diseases. The intestinal canal has already been spoken of. Dr. Bruce has suggested the buccal cavity as a source from which toxic material could be absorbed. In the insanity following child-birth it is unnecessary to look further than the uterine and vaginal tract. Each is an exposed surface and may readily lodge any invading organisms. The insanity of lactation offers a similar suggestion. These are merely suggestions, not by any means my own, and though without actual proof they seem to point in the right direction.

Applying these principles to practice, and believing that the polymorphonuclear leucocyte is the chief means by which the living organism can resist and overcome microbial invasion, I have conducted some experimental observations on the blood of the insane. Though as yet limited in their extent it has been thought well to refer to them because they give encouragement for further trial.

Certain chemical compounds are known, when administered to man, to increase the number of the leucocytes in the blood, in other words to produce an artificial leucocytosis. Of these it is only necessary to refer to two, nuclein and ceredin.

Nuclein is the chief nitrogenous constituent of yeast, and chemically closely corresponds to the cell nucleus of animal tissue. Authorities differ regarding the results that have been attained by means of this substance. When searching through the bibliography of this subject I read an article by Dr. Eyre, in which he dealt with a substance named ceredin. Ceredin is a fatty substance which has been extracted from the yeast by Roos and Hinsberg. It is free from nucleinic substances and is a stable preparation.

Dr. Eyre's experiments were conducted to demonstrate what effect the oral administration of ceredin has upon the staphylo-opsionic index. His results were striking and practically identical in each instance. In every case he investigated marked benefit was derived.

Two cases will now be given in some detail, in which one or both of these chemical compounds were used. The first is one of excitement with confusion, the second of depression with excitement.

G. S. B—, æt. 21, married. Father is insane as the result of alcoholism; her aunt is an imbecile. The patient had a child two months before admission and three months after marriage.

She was very anæmic and emaciated when first seen. Blood changes showed a leucocytosis of 12,000, with a polymorphonuclear percentage of 74 and an eosinophile percentage of 4, which rose the following day to 7. At this time she was in a condition of acute excitement—noisy, restless, and dirty. She called herself Lady C—, and refused her food. At the end of a week she was less excited and no longer noisy, but still restless and troublesome. After another week a leucocytosis of 14,000 was found, but the polynuclear percentage remained normal. Nothing of any note occurred in the blood except a persistent high eosinophile percentage, which continued for the next two months. At the end of this time the leucocyte count was only slightly above normal, and though she now called herself by her own name, showed in the letters she wrote that she had not done as well as was anticipated. Consequently it was resolved to commence a treatment that should raise the leucocyte count and produce an artificial leucocytosis.

For this means ceredin was selected. At first .05 grm. were given three times a day. An immediate leucocytosis of 16,000 was produced, an examination of the blood being made at this and each subsequent occasion three hours after ingestion. The leucocyte count was accompanied by a slightly raised polymorphonuclear percentage. This treatment was continued with doses of .05 grm. of ceredin thrice daily for seventeen days when .075 grm. of the substance was given three times a day.

This had a direct action on the leucocytes which rose to 19,000 per c.mm.; the polymorphonuclear percentage also rose to 91. Subsequently the leucocyte count fell to 12,000

and remained at that figure, and the polynuclear percentage was 85.

The mental condition of the patient during the short time the experiment was in progress certainly improved.

Unfortunately it was impossible for me to continue my observations upon this patient. A month after the last observation was made she was convalescent and on the point of being discharged.

The second case is one of depression with excitement. M. E. S—, æt. 24, single, bakeress. First attack of one month's duration. Mother is of a neurotic tendency.

On admission was very excited and agitated, complained that she was a most infamous wretch and that she should die. Made several attempts at suicide; was miserable, restless and sleepless; she refused food and was artificially fed.

Blood examination showed a hyperleucocytosis of 30,000, with a polymorphonuclear percentage of 89. There was a complete absence of the coarsely granular eosinophile cell. She gradually became less noisy and persistent in her declaration of her own wickedness. The leucocyte count now rose to 33,000 per c.mm., following which it fell gradually to 14,000, though the polynuclear percentage rose to 92 *per cent*.

The patient's mental condition passed from one of restless misery to that of lethargy, though the melancholic aspect of the disease was still manifest. Dementia slowly began to show itself, and though the leucocytosis did not fall, no real mental improvement could be noted. She was dirty, dull and helpless; slept badly and took her food badly. Later an acute inflammation of the skin covering the elbow developed, and at this time she had a leucocytosis of 13,200.

Up to this stage the case has previously been reported, and my remarks, after the disease had been in progress nearly five months, were:

"The points of particular interest are: the marked hyperleucocytosis present with the absence of eosinophile cells. The prognosis must be considered bad, notwithstanding the leucocytosis remaining high, as in this case the reaction of the individual, though marked, has not been sufficiently strong to overcome the invading toxin."

Nuclein was administered in the hope that it would further augment the leucocyte count, but the results were not very

encouraging. At the same time it is only fair to say that though no leucocytosis of any marked extent was produced, the nurse in charge of the patient reported that she was sleeping better. In a control subject, an idiot, a leucocytosis of 18,000 was readily produced.

Ceredin was now given in doses of .1 grm. a day increased later to .2 grm. a day. A leucocytosis of 13,000 was first produced, which rose in two days to 16,000. The neutrophile percentage was raised at the same time to 94. This treatment was continued for a month. During the whole period she never spoke a single word. She was dull and stuporose and remained so for three months, at the end of which time she began to speak intelligently and took an interest in her surroundings. The blood now showed a leucocytosis of 9,000 with a polymorphonuclear percentage of 79. The eosinophile cell, which had remained absent for such a long period, had appeared during the demented condition of the patient in isolated instances. Now, however, that mental improvement was undoubtedly being made, an eosinophile percentage of 6 was noted, which, though not an extreme eosinophilia, is certainly a well-marked one. The period during which these experiments were made was just over three months. The mental improvement was progressive and she is now convalescent.

These two cases have been recorded as a proof that this form of work is not merely theoretically interesting but of some practical value.

Prognosis.

Blood examination is a useful means of arriving at a prognosis in the acute insanities, and hence is of the highest value in enabling us to arrive at a definite conclusion in one of the most important questions that arise in individual cases of insanity.

The blood-changes and the mental condition must be considered together. The phenomena of the blood to be considered are leucocytosis and eosinophilia, while the important mental sign is the advent of dementia.

Here we have to deal not with any one simple factor but a combination of circumstances, the first of which is the virulence of the infection and the second the resistance of the individual.

Infection is primarily due to a lowering of the resisting

power, or in other words an overthrowing of immunity. In disease as well as experimentally, it has been shown that the leucocytosis varies as the amount of toxin absorbed varies. Cabot remarks that if the infection is severe and the patient's resistance good leucocytosis is early, marked and persistent. If the infection is of unusual severity, of the "fulminating" type, no leucocytosis will occur, while between these extremes is the moderate infection and moderate reaction.

Bearing these facts in mind and applying them to the changes occurring in the blood of the acutely insane, they can be made to furnish valuable information quite early in the disease, when a prognosis by the mental symptoms and general appearance of the patient alone would be difficult, indeed impossible.

In the old text-books upon insanity the statement occasionally occurs that in acute mania the prognosis was good when the patient suffered from boils. Indeed, several articles have been from time to time published upon the treatment of acute insanity by the artificial production of furunculosis.

Cases have been reported, and it is common knowledge that in some mental conditions considerable improvement takes place following abscess formation. The heroic method of artificial boil production has no doubt fallen into disrepute on account of the dangers of the procedure.

Only recently the writer recorded a case occurring in a woman of the chronic maniacal type, which bears upon this subject. Noisy, restless and abusive, she had shown no mental change for some years, when she developed a large abscess of the buttock, and at one time it looked as if she would lose her life, but though the inflammation was very acute she ultimately was able to get up.

Previously a noisy, troublesome woman, when the effects of toxin absorbed from her leg began to make themselves felt she naturally became listless and apathetic. After six weeks' confinement in bed, and consequent treatment, the leg condition was cured. Gradually during the last three weeks of her stay in bed the mental condition improved. A month after all signs of inflammation had gone she had a leucocytosis of 10,000 with a polymorphonuclear percentage of 73. She was at this time wonderfully well mentally, industrious, neat and tidy, she was amiable and polite. Unfortunately she ultimately

relapsed to her former condition, but the case is instructive as it demonstrates the use of the leucocyte in regard especially to prognosis.

Methods which nowadays are occasionally employed were formerly used without the exact knowledge of the why and the wherefore. The application of the tinct. iodi to the swollen knee, the actual cautery to the tuberculous joint, and other forms of counter-irritation were all used by the old-fashioned physician because he knew that beneficial results followed, but he never suspected the true reason thereof, or his indebtedness to the leucocyte for the cure of the patient. In mental cases, also, something similar occurred. Undoubtedly valuable results followed the application of croton oil to the scalp in maniacal attacks; and we know from medical records how frequently a seton was inserted in the neck in such cases, yet it is only now that we are able to understand the *true* reason of the usefulness of such painful, almost barbarous remedies.

Eosinophilia occurs in both physiological and pathological processes. It is unnecessary to refer to the former; in the latter it is well marked in trichiniasis, asthma, some ovarian diseases, in the cachexia of malignant growths, and in the post-febrile state (Cabot). Nuesser mentions that in the differential diagnosis of puerperal mania and puerperal septicæmia an eosinophilia points to the former. It is, however, with the prognosis we have to deal. In scarlet fever and chlorosis eosinophilia suggests a good prognosis. Nuesser also considers that after hæmorrhage increased eosinophile cells show active regeneration of blood and a consequently favourable prognosis. The exact function of the coarsely granular eosinophile cell is, as previously stated, quite unknown.

My results tend to show that they can be of valuable assistance in arriving at a prognosis. It is necessary to deal separately with the two psychoses under discussion.

Excitement with Confusion.

In primary cases that make good recoveries there is found at the commencement of the attack a leucocytosis which is over 10,000 but below 20,000 per c.mm. Another constant feature is an eosinophilia found early in the disease, whilst the polymorphonuclear percentage is about 80 or even higher.

The increased microphage percentage shows the bacteri-

cidal property of the blood, as has been demonstrated by Gengou, who found that an exudate containing macrophages had little or no bactericidal strength, but that one containing microphages was powerfully bactericidal.

A marked hyperleucocytosis unaccompanied by any eosinophilia is of bad outlook. The patient is, as it were, overwhelmed by the toxin, not, however, without making a considerable, though insufficient, resistance.

The course of the leucocyte count in those cases which go on to dementia is practically one of continuous leucocytosis for some months, then as dementia begins to show itself the leucocytosis diminishes and finally falls below normal. On the other hand, if the leucocyte count continues high, even though signs of dementia are present, the outlook must not be considered hopeless. This I would specially emphasise now that it is possible to produce artificially an increase of white blood-cells, and it has been shown that these artificially produced leucocytes are as active as those produced naturally in the course of disease.

In secondary attacks the leucocytosis is seldom high. In these cases an eosinophilia is a sign of good prognosis, and more especially if the polymorphonuclear percentage is raised.

Depression with Excitement.

The character of the leucocytosis must be considered the most important sign by which a prognosis can be made.

Generally speaking it may be said that extremes are bad. Hyperleucocytosis demonstrates the extreme virulence or excessive amount of the toxin; the reverse, leucopenia, the lack of resistance on the part of the individual.

As long as the leucocyte count keeps up the outlook must be considered hopeful. Expressed in figures, a leucocytosis of between 12,000 and 16,000, even if signs of dementia are evident, must not be looked upon as hopeless. The most favourable phenomenon is a moderate leucocytosis, with a high polymorphonuclear percentage, which gradually diminishes as the acute symptoms pass off, but which keeps always above normal.

At this time, when the real function of the component parts of the blood is still under discussion, it is difficult, and probably

of no service, to speculate upon the manner in which the coarsely granular eosinophile cell acts in the human body. But it is firmly impressed upon my mind that this leucocyte is the most important of all others in the acute insanities.

Its behaviour has always been definite in excitement with confusion, but my observations in depression with excitement are not so conclusive; its occasionally irregular appearances, sometimes in increased numbers, are most difficult to explain.

(¹) The Essay for which was awarded the Bronze Medal of the Medico-Psychological Association, 1909.

Occasional Notes.

The Annual Meeting.

The years roll on, president follows president, yet each succeeding year finds the presidential chair filled by a successor worthy of the long rôle of honoured predecessors, each distinguished by some special service in the cause of that form of human suffering the alleviation of which is the life-spring of this Association. That this should be the case in a body so limited in its membership is proof of the stimulating character of the work in which it is engaged.

At the recent annual meeting the Association acclaimed a president distinguished alike in the science, literature, and practical treatment of insanity, whose example and influence should strongly reinforce the high stimulus of his immediate predecessors.

The history of the Association shows steadily progressive evolution in the scope of its aims. In its earliest days the amelioration of the condition of detention called for its most urgent efforts. Treatment—medicinal, hygienic, and moral—has occupied its attention continuously; much effort has been given to the improvement of the legal relations of the insane, and in recent years to the education of those employed in their care.

The presidential address embodies a new departure in effort whose coming has long been presaged—the study of insanity from the preventive aspect. Preventive medicine, or rather preventive hygiene, is the dominant character of the medicine

of the age, and this Association would be wanting in sympathy with general medicine did it not share in promoting one of the most hopeful means of human evolution. Insanity in its asylum aspects is, alas, to a large extent, a waste product of the social manufactory, a lamentable result of remote unhygienic conditions over which the psychiatric physician has no control. He may, however, hope, by the careful study of these waste products, to suggest to society the means by which their production may be limited.

The statistical tables of the Association, together with the more scientific study of heredity in the light of recent knowledge, so admirably summarised and so suggestively analysed by the President in his address, should stimulate the Association to take an active share in this preventive teaching. The scientific study of causation of one of the most preventable forms of insanity, general paralysis, was the basis of very important communications by Dr. Williamson and Dr. Ford Robertson. The extent of the work and observations of the latter are well known and appreciated, and Dr. Williamson's communications gave evidence of an extent of research, with elaboration of procedure, of an eminently scientific character. The experiments of these observers appear to clash, but whatever ultimate decision may be reached in regard to the part played by the *Bacillus paralyticus* in general paralysis, there can be no doubt that the investigation is leading to a vast acquirement of knowledge of a very valuable kind.

The preventive treatment of insanity in the pre-asylum stage received an important contribution in the paper of Dr. Helen Boyle, descriptive of a home for the early treatment of nervous and mental breakdown in the poor. This is a most practical new departure, which should be imitated throughout the country. A few score of such homes would materially limit the numbers of those needing asylum care.

The treatment of insanity associated with exophthalmic goitre was the subject of a most interesting communication from Dr. Gilmour. Dr. Fuller, at the conclusion of a capable review of alcoholism, crime, and insanity, urged the adoption of indeterminate detention in inebriate reformatories.

The business aspect of the meeting, if the sittings of the various committees dealing with education, legal and association matters can be thus deprived of their really medical

character, was especially vigorous. The Educational Committee almost rivalled a Parliamentary Budget Committee in the duration of its *séances*.

The social side was as successful as the rest, and the many pleasantnesses of the meeting will long remain in the memory of those attending.

Nor was the meeting without its own special psychologic teaching. An eminent member, coming from a sick bed, almost from the operation table, took a leading part in all the work and enjoyment of the meeting, apparently with excellent results. His numerous friends witnessed with pleasure this forceful demonstration of the beneficent influence of the mind over the body.

Asylum Officers Superannuation Bill.

More progress has been made with this Bill than seemed probable when our note in the July number was penned. After a very thorough enquiry by the Select Committee of the House of Commons, who held eleven meetings and examined twelve witnesses (amongst the latter being Drs. Bower and Hayes Newington, specially representing the Association), a Report was unanimously agreed to, approving the main principles of the Bill, and recommending legislation on its lines forthwith. Certain alterations were made and additional clauses inserted, so that the Bill as revised by the Committee differed in several respects from that originally drafted by the Asylum Workers Association. The most important change was the provision enabling any officer or servant in the employment of an asylum authority at the commencement of the Act (if he so prefer) to contract out of it by giving notice within three months so as to remain subject to his old conditions of service and prospects of pension. The Bill, as amended by the Select Committee, had subsequently to be submitted to a Committee of the whole House, and at this stage it suffered some slight mutilation by a private member, who threatened otherwise to bar its progress. However, it was safely piloted through this peril, and passed its third reading in the House of Commons on August 26th. The tactful way in which Sir William Collins utilised every opportunity that offered for advancing the Bill commands the admiration and gratitude of all interested in its provisions.

The next step was a deputation to the Lord Chancellor arranged by Dr. Shuttleworth at very short notice for September 1st. Notwithstanding the holiday season, ten representative members of the Parliamentary Committees of the Asylum Workers and the Medico-Psychological Associations waited upon his lordship, and were introduced by Sir John Jardine, M.P., K.C.I.E., and speeches were made commending the Bill to his favourable notice by Drs. Shuttleworth, Hayes Newington, and Bower. In reply, his lordship expressed his cordial sympathy with asylum workers in their arduous and trying duties, and said he was personally quite ready to support a measure for the improvement of their prospects, but it would be necessary for him to consult his colleagues in the Cabinet with regard to the Bill.

Owing to the House of Lords having adjourned for ten days some delay occurred in the communication of the Lord Chancellor's decision with regard to the Bill, which was to the effect that the Government, while promising general support, thought it better that an independent peer should take charge of it in the Upper House. Lord Monk-Bretton has been good enough to accept this responsibility, and the second reading of the Bill has now been set down for Thursday, October 7th.

At the time of writing it seems probable that there will be certain difficulties to surmount in the House of Lords, and it behoves everyone who wishes well for the Bill to use all available means to obtain the support of peers within his or her sphere of influence.

The Pentacost Dancers.

The *Review of Hypnotism* for July contains a notice of a meeting at Cardiff on the first of May last of a body claiming the above title. The meeting was in the Park Hotel and delegates from all parts of the Kingdom are said to have attended.

The meeting is summed up as a pandemonium of hysteric religion, the spectacle being more extraordinary than that of the dancing Dervishes.

Can any of our readers furnish a more detailed account of the sect and its meetings? The existence of such an organised body in the twentieth century, in the midst of our civilisation, is a phenomenon as surprising as extraordinary, and demands some scientific attention.

Part II.—Reviews.

Modern Problems in Psychiatry. By ERNESTO LUGARO. Translated by Dr. DAVID ORR and Dr. R. G. ROWS, with a Foreword by Dr. CLOUSTON. Manchester: The University Press. 8 plates, 320 pp., demy 8vo, 1909. Price 7s. 6d. net.

This handsomely printed book reflects great credit upon those who have produced it, and it arrives at an opportune time when there is good reason to look for an elucidative account of Psychiatry as it stands to-day, related to various departments of biology.

Professor Lugaro represents those who hold that insanity is not due especially to causes of a psychic nature, and for that reason he has found it necessary to pass far beyond the limits which the older school of psychologists imposed upon themselves. New problems have arisen, the difficult nature of these problems has been realised, and in breaking new ground we find a boldness of conception and a virility of discussion which cannot fail to clarify our thinking over vague and elusive propositions already submitted for our consideration. Here we have a learned physician, cautious as befits his calling, yet enthusiastic as the pioneer must be. Professor Lugaro founds upon the serious and conscientious investigations quietly carried on in clinics and laboratories, he deals with the practical programme of the work of to-day, and adds indications of the programme of to-morrow. That means a frank recognition of the influences arising outside the nervous system and producing in the brain such changes as result in mental disorders; and the absolute necessity for a wide investigation on lines which Professor Lugaro, out of the fulness of his knowledge, has charted with masterly precision and competence.

We are tempted to enter on a lengthy discussion of the various problems dealt with, but the book itself is condensed enough to make it difficult reading. It is quite impossible to master it without much trouble, and the subtle and acute reasoning of a work which introduces so much of what is new, unfamiliar, and complex must be studied in the form in which the author has cast his wealth of material. Every year sees great aggregations of knowledge in our branch of science; it is well that we can find a trustworthy guide through the intricacies. Bald catalogues of facts require an illuminating and suggestive comment before the facts can be assimilated; precise conclusions require valid and acceptable reasoning preparatory to general assent. Suffice it to say that, after an appreciative foreword by Dr. Clouston, the author and translators add prefaces, and Professor Lugaro writes a general introduction. The problems dealt with are psychological and anatomical, referring specially to Flechsig's centres of projection, the neurone theory, the work of Cajal and Golgi, etc. Thereafter the problems in Pathogenesis, in Etiology, and in Nosology are reviewed. A chapter on practical questions of treatment, administration, prophylaxis, and crime brings the work to a conclusion.

Professor Lugaro has brought the clinical experience of psychiatrists into relation with the latest work done in anatomy, normal and ab-

normal, clearly indicating the line of research required to make good the acknowledged deficiencies in our knowledge. He turns to the old idea, that pathological cerebral manifestations may be due to other organs or parts of the body altered in structure and function, or to a fine and diffuse action of toxins circulating in the blood, and eventually causing anatomical lesions of the nervous system. This central opinion is illuminated by the findings of the modern school. Referring to dementia præcox, so-called, Professor Lugaro finds some elective limitation of the pathological process, that generally it is volition, with the intimately connected affective states, that is broken down. Therefore complete studies of such cases as these would be of high interest, indicating the functions of the most delicate anatomical systems. Passing to an interesting discussion of hallucinations, delusions, and fixed ideas, we may note briefly that alteration in the affective state are probably the first in order, and that the delusion is a reflection of the disturbance in the normal course of the ideas, which is subject to the abnormal influence, which course has been altered by selection in consciousness in a one-sided or false way. Again we would explain that the teaching of Professor Lugaro requires his own words, and sufficient space in which his ideas can be formulated.

In the course of a profound discussion on Etiological Problems and Heredity Professor Lugaro suggests that heredity is essentially a mechanism for preserving the organism, for the biological aim of every vital phenomenon is conservative. He believes that the injurious fortuitous variations which we call degenerative do not tend to be perpetuated; but degeneration is a disease of the hereditary mechanism, and, if the organisms do not succumb, they tend to recover. It is a disease of the stock which is curable. This is a message of hope which is not now delivered for the first time. It constitutes a powerful plea for the improvement of environment. The vulgar question of the increase of insanity and the vulgar impatience betrayed in popular proposals can only be explained and remedied by a comprehension of these problems. For ourselves, here is an authoritative rejection of any symptomatological nosology, of any classification depending on syndromes; but, on the contrary, a whole-hearted acceptance of the difficult and laborious task which lies before us in attacking the real morbid process with which we, as physicians, have really to deal. As Professor Lugaro says, "psychiatry cannot be reduced to the simple study of the insane and the manifestations of insanity." We have long insisted upon that fundamental maxim, and shall continue to reiterate it until it has sunk deeply and effectively into the minds of those who require to keep it ever in remembrance.

A Mind that found itself. An Autobiography. By CLIFFORD WHITTINGHAM BEERS. Longmans, Green & Co., London. 8vo. 1908.

Professor James, of Harvard, read the manuscript of this autobiography, and found it the best written out case that he had seen, showing the weak spots in the treatment of the insane, and suggesting

the right line of remedy. What struck him was the sudden change from a delusional subject to a maniacal one, how the delusional system immediately disintegrated when the brother was proved genuine. Professor James never heard of so rapid a change, but our experience is that similar cases occur from time to time, *e.g.* the sudden mental recovery from marked delusions on the access of an attack of gout.

The author begins by urging that insane persons are still abused, and that he offers a remedy, an intelligent application of which will largely atone for one of the blackest pages in history. He states that little is being done to oppose the increase of insanity, and asks why it should remain on the list of incurable diseases! His remedy lies in scientific research, and the adoption of the non-restraint system. He regards the foundation and endowment of a society to raise the standard of treatment, and the establishment of model institutions as necessary. It is not a little surprising that these obvious methods, adopted so widely in this country, should be put forward as new ideas by an author who writes with some knowledge of his subject.

In 1894 his brother was attacked by epilepsy caused by a tumour in the base of the brain, and the writer worried inordinately fearing a similar attack. He broke down, after some years of partial neurotic failure, in 1900. He believed that he had become epileptic, and contemplated suicide, and eventually made an attempt by precipitation. Having been sent to a general hospital, according to his statement the sight of the barred window of his room gave rise to delusions which lasted two years. These are vividly related at great length. Admission to a private sanatorium was sought, where he was under care of two attendants at an extortionate charge; until the rate of maintenance was abated and restraint was used—under the orders of a cruel and incompetent physician. Although he was still intractable and highly delusional a friendly attendant persuaded the patient's relatives to employ him as caretaker. A visit to his home in his delusional state had no good effect, and in 1901 he was sent to an institution for the insane, where he found the environment more suitable, and after a time recognised his brother as genuine, having convinced himself and so returned to "reason." However, the author found that he had a world of energy to dispense, and set about the reformation of the institution, beginning with his plan in the "violent ward," to which he secured entrance by his "malevolent tongue." Many pages are devoted to records of turbulent conduct, endurance of restraint, and complaints of doctors and attendants. A transfer to a state hospital for the insane almost immediately resulted in a return to the decencies of life, a common enough experience in our practice. However, as happens, the good ward of the State hospital was too polite, and he still craved excitement, especially in the reformation of asylums. A scene of violence led to his removal to the excited ward, where he continued for nearly four months in a "carnival of abuse," due invariably to the attendants' state of mind. Characteristic letters to the Governor of the State found him, too, a derelict in his duty, but improvement set in, and after various visits to friends Mr. Beers was discharged in 1903. A period of business life was succeeded by a phase of elation and a return to a private asylum, where he records his exquisite light-heartedness, ringing

in the ears, lack of reserve, and *cacoethes scribendi*. A shorter contented period of residence resulted, after which he returned to business and wrote this book with the *ad captandum* title. The initial mistake of believing that a mind could find itself, that the author was other than a troublesome patient labouring under a physical disease, the mere mental concomitants of which require a description of some 300 pages, stands in direct opposition to the plea for scientific investigation. He could not be argued out of his delusions until his time had come. We should be sorry to condemn hospitals for the insane of America on such an *ex-parte* statement. It does not seem to occur to the author that much remains to be said on the other side, and that "brutality" is not strictly limited to the sane. As an asylum document, however, the book has a pathological interest; it also supports the established position that the long progress of psychiatry is as yet very far from complete and urgently requires our continued labours, that the training of nurses is necessary, that associated helpers should maintain their labours, and that the best should be done in treatment and administration. The use of mechanical restraints is such an old story with us that it is a far-away memory even for our Nestors; but we fear that Mr. Beers would find no difficulty in describing us laggards in science, our educated nurses mere failures, and our administrative methods worse than inefficient. The worst of it is that such a book is calculated to deter the best men and women from entering on the service of the insane. This lurid painting of hospital life certainly makes the flesh creep, if asylum work happens to be a *mystery* to the reader. Conolly did not advocate reform with wild and whirling words, nor does the more excellent way gain acceptance by these sensational methods.

The Maniac. London: Rebman. 8vo, 304 pp. 6s.

This purports to be an auto-record of an attack of mental disorder, apparently caused by the reading of spiritualistic literature, together with daily association with a spiritualist suffering from hallucinations. The delusions are described in the terms that might be expected from such antecedents.

The mental disorder, if disorder it be, is certainly unique, although the writer assumes that it is the type of all insanity. If true, it would be strong evidence of the undesirability of indulging in spiritualistic and occultistic literature before going insane.

Her doctor is described as a "nerve specialist," who is "mental specialist at several London hospitals." This would account perhaps for the opinion with which he is credited. The patient, asserts, however, that a doctor who would study "Hindu psychology" would solve the problem (? of insanity).

This "Human Record" (a description that is almost as blessed as "Mesopotamia"), if not a piece of imaginative writing founded on Poe and Hitchens, with a sauce of spiritualism and occultism, is valueless from its want of all concurrent scientific observations; and its erotic allusions render it unsuitable for public reading, even as a sixpenny shocker.

Part IV.—Notes and News.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

The SIXTY-EIGHTH ANNUAL MEETING of the Medico-Psychological Association was held at the West Riding Asylum, Wakefield, and at Queen's Hotel, Leeds, on Thursday and Friday, July 22nd and 23rd, 1909. The proceedings commenced at 11 a.m., and Dr. Charles A. Mercier, the retiring President, occupied the chair.

Present: Drs. T. Stewart Adair, Leonard D. H. Baugh, W. Bevan-Lewis, C. Hubert Bond, David Bower, A. Helen Boyle, H. Clarke, J. Benson Cooke, H. Creighton, Herbert R. Cross, W. R. Dawson, H. Devine, J. Francis Dixon, M. B. Dobson, John O'C. Donelan, Thos. Drapes, A. I. Eades, F. W. Eurich, James J. Fitzgerald, L. O. Fuller, J. W. Geddes, F. R. Gilmour, Frederick P. Hearder, C. L. Hopkins, R. D. Hotchkiss, Walter S. Kay, Stephen G. Longworth, P. W. MacDonald, T. M. McDowall, Douglas McRae, W. J. O. Merut, Jas. Middlemass, Alf. Miller, John Mills, G. E. Mould, Winifred Muirhead, W. F. Nelis, H. Hayes Newington, M. J. Nolan, David Orr, L. R. Oswald, James Parker, Bedford Pierce, H. Rayner, W. Ford Robertson, R. G. Rows, Geo. H. Savage, R. Percy Smith, J. G. Soutar, W. H. Steen, H. G. Stewart, R. C. Stewart, W. H. B. Stoddart, Alfred Swan, C. S. Thomson, A. R. Turnbull, A. R. Urquhart, D. Yellowlees.

No visitors have signed.

The following members intimated their inability to attend the meeting:—Drs. Aveline, Alliot, Fletcher Beach, Lewis Bruce, Bolton, Bullen, Baird, Bowes, Boycott, Callcott, Craig, Chambers, Cribb, W. I. Donaldson, Graeme Dickson, De Steiger, Ellison, Eager, East, Fennell, A. Fitzgerald, J. F. Fitzgerald, Goodall, R. W. Gilmour, Hystop, Higginson, Robert Jones, Carlyle Johnstone, Logan, Legge, Lawless, P. Langdon Down, R. Langdon Down, Marr, Mott, McIntyre, Marriott Cooke, Needham, Oakshott, Pasmore, Paul, Revington, Ronaldson, Roberts, Rice, Reynolds, Roscoe, Ridington, Maule Smith, R. J. Stilwell, Shuttleworth, Steele, P. C. Smith, Skinner, Sankey, Spence, Smyth, Steward, A. Turner, F. R. P. Taylor, Worth, Wolseley-Lewis, Wigan, Wilkinson, and Watson.

The PRESIDENT reminded members that the minutes of the last meeting had been published, and it was usual to take them as read.

The minutes were taken as read, and were signed.

The PRESIDENT.—The next item was the election of officers and members of the Standing Committees. Members had had the voting papers, and certain papers had come by post, which would be added to the others. He appointed Dr. Drapes and Dr. Stoddart as scrutineers. Later the President announced that the nominations for Council had been accepted.

The PRESIDENT said the next business was to elect auditors for the ensuing year.

Dr. SAVAGE proposed Dr. Lord as auditor.

Dr. MACDONALD seconded the nomination of Dr. Lord, and it was carried, so that the auditors for the ensuing year became Dr. Maurice Craig and Dr. Lord.

ELECTION OF STANDING COMMITTEES.

The PRESIDENT said the members had before them the list of the *Parliamentary Committee*, as nominated by the Nominations Committee and approved by the Council, and it was open to the meeting to either strike names out or put other names on.

Dr. BOWER proposed the additional name of Dr. R. C. Stewart, the Medical Superintendent of the Leicestershire and Rutland County Asylum.

Dr. THOMSON seconded, and it was carried.

The rest of the Committee, as it stood, was then approved.

The PRESIDENT asked whether there were any suggestions of names to be added or deleted in connection with the *Educational Committee*.

Dr. YELLOWLEES said he did not wish to move in the matter; he merely wished to call attention to the fact that there were a number of members on both Committees who did not attend the meetings.

The Committee was approved as it stood on the agenda.

The PRESIDENT said the Library Committee had had some additions made to it this year, and asked whether any modifications in it were proposed.

It was agreed to without alteration.

REPORT OF COUNCIL.

The SECRETARY (Dr. Bond) read the Report of the Council, and moved its adoption.

The number of members—ordinary, honorary, and corresponding—on the 31st of December, 1908, was 696, which is an increase of six as compared with the corresponding figure for the previous year.

The following table shows the membership during the past decade :

Members.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.
Ordinary . . .	550	568	580	586	597	620	641	638	645	652
Honorary . . .	36	38	37	37	36	35	32	32	30	29
Corresponding . .	12	10	11	12	12	15	15	15	15	15
Total . . .	598	616	628	635	645	670	688	685	690	696

From this it will be seen that the ordinary membership has increased by seven (exactly the same increment as during the year 1907), the honorary members are less by one, while the number of corresponding members remains unchanged.

The number of new members, as compared with those in recent years, is unusually satisfactory, as many as forty-five having been registered during last year, besides which the names of three former members were replaced. There remain, however, many assistant medical officers who are not yet members. The fact that they are often able to see copies of the JOURNAL belonging to their colleagues who already happen to be members, takes away one of the incentives for joining. Much could be done in this direction, and in increasing the attendance of assistant medical officers at meetings, if more medical superintendents would represent to our junior colleagues the advantage to themselves of making a habit, in the early days of their asylum career, of attending the Association's meetings.

The resignations of twenty-one ordinary members were received, and the names of nine others were removed.

The Council regrets to have to chronicle the deaths of as many as eleven members. Their names have already appeared in the obituary column in the January number of the JOURNAL; among them are the late Dr. Conolly Norman, who was President of the Association in 1894, and one honorary member, the late Sir Henry A. Pitman.

The usual Quarterly Meetings were held in February, May, and November. That in February was, by the courtesy of the University authorities, held in the Medical Schools, at Cambridge: much kind help in the necessary arrangements was afforded by Sir Clifford Allbutt. The Annual Meeting was held in London. The standard of the papers read has been well maintained and the attendance very good.

A Special Meeting was, by the direction of the President, called in April to consider the Bill promoted by the Asylum Workers' Association in respect to compulsory pensions.

Eleven Divisional Meetings have been held.

The Criminal Procedure Committee reported its labours to the last Annual Meeting, and was reappointed for another year.

The British Committee of the proposed International Institute for the Study of the Causes of Insanity has met occasionally, but, pending action on the part of the Italian Government, little progress can be made.

The Educational Committee, under the Chairmanship of Dr. Mercier, presents

its Report. Its work has been exceptionally heavy, and has necessitated long hours of sitting and one Special Meeting.

The Committee for the revision of the Handbook completed its work, and the new Handbook was in November laid on the table by Dr. Hayes Newington, the Chairman of the Committee.

The Parliamentary Committee, under the Chairmanship of Dr. Bower, also presents its Report.

The JOURNAL continues much appreciated and its circulation satisfactory.

The Library Committee proposes to add to its members, and is suggesting some new directions of activity.

The finances of the Association, under the able and ever watchful care of the Treasurer, remain in an entirely sound position.

The entries for the Nursing Certificate have been about an average number; those for the May examination in 1909 were unusually numerous. The Registrar's duties continue onerous and very heavy, and, as heretofore, to him, to the Divisional Secretaries, and other officers, the hearty thanks of the Association are due.

Dr. STODDART seconded, and it was agreed to.

THE TREASURER'S REPORT.

THE TREASURER (Dr. Hayes Newington) said that hitherto he had been content to say a few words on current facts in consideration of the balance-sheet forming the best report; but occasionally he thought it right to offer fuller remarks on the finances of the Association.

I present my Annual Report to the Association. I lay on the table the balance-sheet for last year, the banker's pass-book made up to date, and the ledger.

It will be seen by the circulated copies of the balance-sheet that the gross excess of receipts over expenditure was £226 12s. 3d. Variations in the value of stock, together with the writing off of irrecoverable subscriptions, reduce the net surplus to £195 16s. 4d. The largest previous surplus was £126, in 1901.

I have lately invested by the authority of the Council a further sum of £400, representing accumulated profits. The actual value of the stocks now belonging to the Association is £1700. Of this sum, the Hack Tuke Memorial Fund of £315, earmarked for library purposes, and Dr. Paul's bequest of £100, have come from the outside as it were; the remainder, amounting to nearly £1300, has been earned by the Association. I cannot find when the first investment was made, but in 1886, £200 then standing was augmented by another £100. No further addition was made until 1903, and since then £1000 has been put by.

It cannot be said with any justice that this satisfactory state of the finances has been procured by nearness or parsimony. We have entertained our friends and ourselves reasonably well, we have fitted ourselves out with new rules and new statistics, we have not hesitated to spend money in looking after the interests of others who have a claim on the Association, and, above all, we have very rightly increased our expenditure on minutes, proposals, and records of our Committees, whereby nothing is lost of the great labour given to the solving of the important problems referred to them.

Undoubtedly for success we are indebted to the great activity shown in earning money, combined with the reasonable caution shown by those departments which are responsible for expenditure.

I have taken out and now present 10-year averages of the leading factors on either side.

The subscriptions stand thus: Ten years ago the number of paying members was 510, now it is 652, with an average of just over 600. The addition of members means much more than a mere difference of 142; for death, resignation, and removal, have taken away 60, 192, and 64 respectively—a total of 317; thus 459 new members have come to us, or an average of nearly 46 per annum. The energy of the Secretaries is thus demonstrated. We cannot afford to stand still in this direction, and it is suggested that a considerable field is now opened by the institution of medical inspection of elementary schools, the work in which to a certain degree brings inspectors into contact with our work. It is satisfactory to note that a beginning has been made in this field.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION.—For the Year 1908.

REVENUE ACCOUNT—January 1st to December 31st, 1908.

1907.		Dr.		Expenditure.		Income.		Cr.		1907.	
£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
564	14	11	To Journal—Printing, Publishing, Engraving, Advertising, and Postage ...	537	0	6	By Dividends ...	210	0	0	2
126	17	11	Examinations, Association Prizes, and Clerical Assistance to Registrar ...	192	6	3	" Sale of Journal ...	46	19	8	2
36	9	10	Petty Disbursements, Stationery, Postages, etc. ...	47	12	5	" Handbooks ...	32	0	0	2
132	16	1	Annual, General, and Divisional Meetings ...	135	13	10	" Advertisements ...	13	5	9	2
56	0	0	Rent of Premises at 11, Chandos Street, care of Office, etc. ...	56	2	6	" Statistical Forms, etc. ...	302	5	5	2
6	6	0	Audit and Clerical Assistance ...	6	6	0	" Fees, Certificates of Psychological Medicine ...	25	4	0	2
181	13	8	Miscellaneous ...	91	15	5	" Certificates of Proficiency in Nursing ...	217	16	0	2
27	0	1	Balance ...	1066	16	11	" Subscriptions ...	243	0	0	2
£1131	18	6		226	15	4		715	11	6	2
				£1293	12	3		£1293	12	3	2

BALANCE-SHEET—31st December, 1908.

1907.			Liabilities.			Assets.			1907.					
£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.			
0	8	3	Journal Account, balance of	...	...	33	18	6	Lloyd's Bank:—Bankers	...	...	
10	10	4	Petty Disbursements Account, balance of	...	...	12	3	0	New Zealand Stock, 3½ per cent., value at this date	...	...	
35	0	4	Examinations Account, balance of	...	...	56	3	8	do. (Hack Tuke Memorial)	315	18	6		
8	18	3	Meetings Account, balance of	...	...	21	9	10	Victoria Stock, 3 per cent. (Dr. Paul's Bequest)	...	90	8	9	
14	0	0	Rent Account	...	...	14	2	6	Do. 3½ per cent.	...	...	195	10	0
42	16	5	Miscellaneous	...	...	30	5	8	Manchester Corporation Stock, 3 per cent.	...	...	194	13	1
20	18	8	Library	...	...	21	12	0	New South Wales Stock, 3½ per cent.	...	...	197	4	11
117	5	3	Gaskell Fund	...	...	16	14	11	Sales Account, balance	...	...	1300	1	3
			Balance:—Balance on 1st January	...	...	1540	17	4	Subscriptions Account, balance	...	...	276	19	3
			Add: Balance of Revenue Account	...	...	226	15	4	Fees Account, balance	...	...	133	17	6
			Increase in value of Victoria Stock	...	...	7	0	1		...	...	67	18	6
			Increase in value of Manchester Cor. Stock	...	...	4	5	7		...	...	
						1778	18	4						
			Deduct: Decrease in value of New Zealand Stock	...	...	1	11	1						
			New Zealand Stock (Hack Tuke Memorial)	...	...	1	12	0						
			New South Wales Stock	...	...	3	15	1						
			Subscriptions written off	...	...	38	6	6						
						44	4	8						
						1734	13	8						
1540	17	4				£1941	3	9						
£1790	14	10												

WOODINGTON & BOLT.

H. HAYES NEWINGTON, TREASURER.

The sales of the JOURNAL, and the revenue from advertisements average £219, and bring down the cost, which would have been 18s., to 10s. 9d. for each member. The Editors continue by careful management to increase sales and at the same time to keep the cost not far from the average sum of £547.

The sale of the Handbook has brought in an average of £29. It is particularly gratifying to be able to state that in the first half of this year sales have exceeded the average of a whole year. The issue of 5000 of the new edition, published in November last, is nearly exhausted.

The income from fees for Examinations averages £186 yearly, of which £168 comes from nurses, and £18 from medical candidates. The expenses average £162, leaving a surplus of £24. It is somewhat difficult to split up the costs between the two classes of examinations, but it is evident that both contribute to the surplus. It is likely that the nursing examinations will henceforth make a still larger contribution. Some have felt a doubt whether the latter examination should yield any surplus, but it would not be right in my opinion to run any risk of a deficit; in any case the present margin cannot be considered unreasonably large.

The yearly cost of summoning and conducting our meetings, preparing the agendas, the entertainment of guests, and other minor items, is, on the 10-year average, £126. It varies but slightly from year to year, and cannot be considered as unreasonable, covering as it does Annual, Special, General, and Divisional Meetings, at least fourteen in all in the course of the year.

The Miscellaneous account averages £96 yearly. Beyond bearing the expenses of such extraordinary items as the cost of new bye-laws, statistical tables, tuberculosis tables, etc., it takes in expenditure on the regular work of the Standing Committees, which, as said before, should not be stinted in any way. To it are charged insurances, the cost of complimentary addresses and presentations, honoraria, contributions to other societies, and so forth. This year it will have to bear the cost of the new index to the JOURNAL.

The only other item needing consideration is that of Petty Disbursements, which mainly consists of postages, stationery, and allied payments. It averages £44, and is a satisfactory measure of the large amount of clerical work done by your officers.

The income from investments has risen from £10 10s. to £32 last year, and to the latter sum another £14 will be added by the recent purchase of Stock.

Finally, the yearly surplus for the last ten years has been £71. We could have made it larger by more economy, we could have made it less by extravagance, but on the whole I think that a satisfactory compromise between economy and extravagance has been reached. In any case there is ample evidence of remarkable vitality about the Association, with a promise of increase rather than of decrease.

THE GASKELL FUND.

I have to report that on July the 1st the balance-sheet stood thus:

Invested capital*	.	.	£1718	2	4
On deposit	.	.	158	2	7
In the hands of the Association	.	.	67	16	1
			£1944	1	0

He moved its adoption.

Dr. STODDART seconded the adoption of the Report, and said he thought Dr. Hayes Newington's remarks should be entered on the minutes, and that, if necessary, he would be glad to propose that this course be taken.

Dr. PERCY SMITH asked whether the statement showed capital investments.

The TREASURER replied in the negative.

The Report was carried.

* New Zealand 3½ per cent. Stock £1380 11s. 4d. New South Wales 3 per cent. Stock £337 11s.

THE EDITORS' REPORT.

Dr. RAYNER presented the following Report:

The Editors beg to draw the attention of the Association to the need for accommodation for the storage of the reserve issues of the JOURNAL which are yearly increasing in bulk. A few numbers have been completely exhausted, but there are others of which a considerable number of copies remain.

Dr. Bower, who has hitherto kindly stored these reserve copies of the JOURNAL, cannot receive more, and the space of the Library is being largely encroached on by those of recent date.

It would, of course, be more satisfactory to have storage room in connection with the Library, to the extension of which we have recently directed attention. If this cannot be attained, it is manifest that some effective course should be adopted in the immediate future.

The Editors desire to express their deep regret and sense of loss sustained by the death of Dr. Ireland, who has contributed much valuable work to the JOURNAL for many years.

They also again acknowledge with gratitude the admirable work done by Dr. Lord in connection with the Epitome.

HENRY RAYNER.
A. R. URQUHART.
JAMES CHAMBERS.

He wished to add that the Council had appointed a small Committee to consider the question of the storage of the journals. He proposed the adoption of the Report.

Dr. PERCY SMITH seconded its adoption, and it was agreed to.

THE AUDITORS' REPORT.

Dr. THOMSON read the Report, as follows:

The Auditors beg to report that they have examined all the accounts and seen all the vouchers, and have checked the subscription account, and in all cases they have found them to be correct.

The Auditors noted that the insurances for the furniture, books, etc., of the Association have been duly paid. The sale of advertisements in the JOURNAL is rather less than usual, but the sale of the Nursing Handbook is considerably greater. They further note that the first year's sale of Statistical Forms is £13 5s. 9d.

The Treasurer is to be congratulated on the state of the finances and of the various accounts of the Association. (Signed) D. G. THOMSON, }
MAURICE CRAIG, } *Auditors.*

Dr. PERCY SMITH seconded, and it was carried.

REGISTRAR'S REPORT.

Dr. MILLER said he had no special Report to submit, as his work was embodied in the report presented by the Educational Committee.

REPORT OF EDUCATIONAL COMMITTEE.

As usual, four meetings of this Committee have been held during the year. The Registrar reports that 177 and 798 candidates presented themselves at the November and May examinations, and that 87 and 372 passed.

The labours of the Handbook Sub-committee are now concluded, and the fifth edition, revised and much enlarged, has now been published and has been favourably received.

A Sub-committee has been appointed to revise and re-model the nursing regulations in accordance with the recommendations of the Sub-committee appointed last year to re-consider the nursing examination. This work is nearly complete, and members of the Association will shortly be in possession of a copy of the draft regulations.

A Sub-committee has been appointed to consider a scheme for the teaching of Psychiatry and allied subjects and for the granting of diplomas therein with a view to bringing the said scheme to the notice of the Universities and other teaching

and examining bodies. A detailed account of the work of this Sub-committee will be laid before the Association in due course.

C. MERCIER, *Chairman*.

W. H. B. STODDART, *Hon. Secretary*.

Dr. STODDART read the Report, which had already been printed and circulated. He added that, in reference to the Sub-committee appointed to consider the draft regulations, those were nearly complete, but it was doubtful whether they would be ready in time for the meeting on the following day; and, on account of the rules, they would be unable to get them passed. One of the rules was that they must be passed at an annual meeting. And, on the other hand, they would not have them passed in time to circulate them in printed form. It had therefore been suggested—and he would be pleased to propose—that the business part of that Annual Meeting be adjourned until next November, and be proceeded with immediately before the November Quarterly Meeting, in order that the nursing regulations could be brought into force. Otherwise the whole thing would have to be postponed until the Annual Meeting next year, which would be a disadvantage.

Dr. PERCY SMITH seconded the proposition.

The PRESIDENT said the adoption of the Report which had been read would involve and carry with it the adjournment of the business part of this Annual Meeting until the 23rd of November next, in order that the nursing regulations, which were not yet complete and not in the hands of members, might receive the sanction of the general meeting of members of the Association. The new nursing regulations were necessitated by the new scheme of double examination in the future. In order that that scheme might come into being at the time and on the date which had been announced, it was necessary that the nurses' regulations should receive the sanction of the Annual Meeting not later than next November. If anyone had any remarks to offer on the Report, now was the time to speak.

Dr. MILLS asked when the new regulations would come into force.

Dr. STODDART replied that it was proposed that the new regulations should come into force in this way; that they could not be retrospective, and that therefore they should apply only to candidates who entered the asylum service after 31st of October next; perhaps that would have to be made 30th of November, because of the meeting in November; and further, that the old regulations should be defunct four years after that date.

The Report of the Educational Committee was adopted.

THE PARLIAMENTARY COMMITTEE.

Dr. P. W. MACDONALD, in the absence of the Secretary of the Committee, read the Report, which had been already printed and circulated.

The Committee has met five times. The subjects which have chiefly occupied its attention have been the Asylum Officers' Superannuation Bill and the Nurses' Registration Bills.

The Asylum Officers' Superannuation Bill emanated in the first instance from the Asylum Workers' Association. It was presented by Sir William Collins, and ordered by the House of Commons to be printed on March 2nd, 1909.

In response to a circular sent to members of the Medico-Psychological Association in February, 1909, a majority signified that they were in favour of assured pensions on a lower scale than the present permissive pensions, and of a reasonable contributory scheme.

At an Extraordinary Meeting of the Parliamentary Committee, held on March 26th, the Bill was discussed in detail, and certain amendments (which appeared in the April number of the JOURNAL) were suggested; these were subsequently discussed at an Extraordinary Meeting of the Association held on April 19th.

The Bill has passed the second reading without opposition, and a Select Committee has been appointed to consider it. The Chairman of the Parliamentary Committee, Dr. Bower, with whom was the General Secretary, Dr. Bond, have given evidence before this Committee, and had a sympathetic hearing.

The Committee are glad to hear that Dr. Urquhart and Dr. Carlyle Johnstone for the Scottish Division, and Dr. Nolan for the Irish Division, gave evidence before the Committee.

We hope that this question of compulsory pensions, which has for many years been a subject for discussion at the meetings of the Parliamentary Committee, may at last find a satisfactory solution.

The Nurses' Registration Bills which are now before the House of Commons are not making much progress, and have met with organised opposition.

The Sub-committee on these Bills has met more than once, and has been in communication with the backers of the Bills so as to secure proper consideration of the claims of mental nurses, and to get proper representation of this Association on the Council proposed to be formed.

It is understood that no further progress can be made with the Nursing Bills this Session, but that one or both will be re-introduced next Session.

DAVID BOWER, *Chairman*.

H. WOLSELEY-LEWIS, *Hon. Secretary*.

He moved the adoption of the Report, with the additional words in reference to the evidence given on behalf of the Scottish and Irish Divisions.

Dr. BOWER seconded, and it was carried.

THE LIBRARY COMMITTEE.

Dr. RAYNER presented the Report of this Committee, and moved its adoption.

During the past year the Library has maintained its usefulness. There has been a slight increase in the circulation of books amongst members, and the room itself has been more used for the purposes of study.

The presentations and additions by purchase have been duly noted in the JOURNAL.

The Committee desire to appeal to members for further presentations of books of medico-psychological interest, and would be glad to receive suggestions for the purchase of books.

The Library is especially lacking in sets of the most important journals relating to medico-psychology in recent years. The Committee urge that members taking such journals should contribute them to the Library.

The Committee desire to point out that the accommodation of the Library is approaching its limits, and will require consideration in the near future.

H. RAYNER.

T. OUTTERSON WOOD.

R. H. COLE.

He wished to add that the question of the extension of the Library, and extending its usefulness, and compiling a bibliography of subjects in connection with medico-psychology, had been referred to the small Committee appointed to consider the storage of the journals. One of the most important additions to the Library this year had been the general index of the JOURNAL, which had been compiled, at great labour and care, by Dr. McDowall. He was sure that anybody who had referred to that index, as he himself had done, must have been struck by the most admirable, careful, and accurate way in which it had been compiled. He thought the special thanks of the Association should be given to Dr. McDowall for his work.

Dr. P. W. MACDONALD seconded the Report, and said Dr. McDowall had been ably assisted in the work by his distinguished son.

The motion was agreed to.

CRIMINAL PROCEDURE COMMITTEE.

Dr. URQUHART, in the unavoidable absence of Dr. Maurice Craig, read the following Report, and moved its adoption:

The remit was:—"To consider the present practice in Criminal Procedure in relation to the question of the alleged insanity in accused persons; and to consider also the practice of Civil Procedure following on the carrying out of the Lunacy Acts by medical men; and to consider whether any alteration is possible."

The Committee has been engaged in consideration of the remit, and report

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ad interim that their business has not yet been completed, and that they therefore desire to be reappointed and continued.

The Council deleted the name of Dr. Oswald at his request, and appointed Dr. Marr in his place.

A. R. URQUHART, for the Secretary.

Dr. PERCY SMITH seconded, and it was carried.

THE PRESIDENT said the next item before the meeting was the fixing of the dates of the meetings of the Association and of the Council. The dates of those were already before the meeting, with the addition that the dates of the Northern and Midland Divisions, which had not been fixed, were suggested as Thursday 21st October this year, and Tuesday 19th April next year, at the Royal Albert Asylum and Haydock Lodge respectively. He proposed to put those dates to the meeting *en bloc*, and if there was any objection to be taken to any of them it was necessary to take it now.

Dr. THOMSON asked whether he was in order in speaking as to the date of the annual meeting.

The PRESIDENT replied that Dr. Thomson was quite in order.

Dr. THOMSON said that last year he pointed out that many members of the Association, who were also representatives on the British Medical Association at the annual meeting of the latter Association, must either sacrifice the second day of the Medico-Psychological Association, which he was sure they were equally anxious to attend, or the opening meeting of the British Medical Association. When he mentioned the matter last year, he was promised that the point should be kept in mind. But the same disaster had happened this year. He could not be at the next day's meeting of the present session, as he had to go to the greater representative meeting.

Dr. MORRISON said he wished to add his words to those of Dr. Thomson; he also was anxious to attend the representative meeting.

The PRESIDENT remarked that the date of the annual meeting was left to the incoming President, and therefore any representations should be made to his successor.

Dr. THOMSON said he was much obliged for the suggestion, but he was in the same position as last year.

The PRESIDENT remarked that Dr. Turnbull was present, and no doubt would meet Dr. Thomson's suggestions as far as possible. He took it that those dates were not objected to generally by the Association.

Agreed.

QUARTERLY MEETINGS.

November, Tuesday the 23rd, 1909. February, Thursday the 24th, 1910. May, Tuesday the 24th, 1910.

DIVISIONAL MEETINGS.

South-Eastern Division.—Wednesday, 6th October, 1909; Tuesday, 26th April, 1910. South-Western Division.—Friday, 22nd October, 1909; Friday, 29th April, 1910. Northern and Midland Division.—Thursday, 21st October, 1909; Tuesday, 19th April, 1910. Scottish Division.—Friday, 19th November, 1909; Friday, 18th March, 1910. Irish Division.—Saturday, 6th November, 1909; Thursday, 21st April, 1910; Thursday, 7th July, 1910.

Dr. P. W. MACDONALD wished to call the President's attention to a slight omission he had made. There was, on page 4 of the Agenda, an item as to motions involving the expenditure of money. He thought certain money had been recommended by the Council which it was understood was to be passed that day.

The PRESIDENT said that was so, but the motions referred to were those exceeding £25 in amount. The amount which the Council had voted was only £5, so really that did not come in here. It would be referred to by the incoming President that afternoon.

Dr. BOWER asked whether that included the contributions which had been suggested to the Asylum Workers' Association in respect of the Pensions Bill—£20?

The PRESIDENT said that had appeared in the Report of the Parliamentary Committee.

Dr. HAYES NEWINGTON said he reported it to the Council that morning, but it had not been before that meeting.

The PRESIDENT said that although perhaps it was not strictly required, it was expedient that he should mention that the Council sanctioned, that morning, the expenditure of a £20 contribution towards the expenses of the Asylum Workers' Association in bringing forward the Pensions Bill now before Parliament.

ELECTION OF CANDIDATES.

The PRESIDENT said the meeting would now proceed to the election of candidates as Ordinary Members. The ballot would be taken for the candidates *en bloc*, and if there were any blackballs each candidate would have to be balloted for separately. At the same time there would be a ballot for Honorary Members and Corresponding Members.

Dr. HAYES NEWINGTON said he desired to mention one of the names specifically, that of Sir William Collins. Those whose names were subscribed to his nomination desired to nominate him on the following grounds:

He is a Doctor in Medicine, Master in Surgery and Bachelor of Science in the University of London, and a Fellow of the Royal College of Surgeons.

He has until recently been Vice-Chancellor of the University of London.

He is a Member of Parliament and a Deputy-Lieutenant for the County of London.

He is Consulting Surgeon to the Western Ophthalmic Hospital, etc.

He has been Chairman of the London County Council and of several of its more important Committees.

He has been a member of several Royal Commissions.

As a Member of the London County Council, and now as Member of Parliament, his keen energetic interest and broad-minded policy in promoting the more enlightened housing and treatment of the insane, the prosecution of scientific research in mental pathology, and the fostering of reliable well-trained staffs in asylums, are well known. As prominent illustration of his work in this direction may be mentioned the establishment of the London Asylums Pathological Laboratory at Claybury, and the Pensions Bill now before Parliament, promoted by the Asylum Workers' Association, a second reading of which has been obtained by Sir William Collins's efforts.

He did not think there was any gentleman outside the Association who was more fitted to receive the highest honour which its members could bestow. (Applause.) The work which Sir William Collins had done was beyond all praise, and no doubt would be made use of by future generations. But for their own immediate purpose, the most important recent work which he had done was to foster the promotion of the Pensions Bill. That was a matter which had been before the Association for many years; and it had been chiefly due to the untiring industry of their colleague, Dr. Shuttleworth, and the practical help of Sir William Collins that that Bill had now gone forward to nearly a successful issue. He again said that he did not think there was anybody outside the Association who should be more warmly received by its members than Sir William Collins. (Applause.)

Dr. PERCY SMITH said he would like to say a few words about Professor Obersteiner, who was to be balloted for as an Honorary Member of the Association.

Professor Heinrich Obersteiner is the distinguished Professor of Neurology in Vienna, and since 1902 has been President of the Verein für Psychiatrie und Neurologie. He is the founder and director of the Neurological Institute of the Vienna University, and since 1892 has edited the volumes of *Arbeiten aus dem Wiener neurologischen Institut*, in which many important contributions to neurology have been published by himself and his pupils. He holds an honorary degree from the University of Oxford, and is an honorary member of many medical societies (St. Petersburg, Tokio, Brussels, Paris, Ghent, New York, and Constantinople). His contributions to the literature of neurology and psychiatry have been very numerous. He published in the English journal *Brain* the articles—

"Experimental Researches on Attention," vol. i.

"Chronic Morphinism," vol. ii.

"On Allochiria," vol. iv.

"The Cerebral Blood-vessels in Health and Disease," vol. vii.

His great work *Anleitung beim Studium des Baues der Nervösen Central Organe* has gone through several editions, and under the English title, *The Anatomy of the Central Nervous Organs*, has been twice published in this country, and has also been translated into Russian, French, and Italian. Among other important works may be mentioned—

Die Lehre von Hypnotismus, 1893.

Die Intoxications-psychosen, 1888.

Funktionelle und Organische Nerven-Krankheiten, 1900.

Die Krankheiten des Rückenmarks, 1905.

Die progressive Paralyse, 1903.

Die Sinnestäuschungen, 1909.

In addition to these, many important papers (too numerous to mention in detail) have been published by him in the—

Wiener med. Jahrbücher.

Jahrbuch für Psychiatrie.

Deutsche Revue, etc.

Professor Obersteiner acted as President at the Congress on "The Care of the Insane," held in Vienna in October last, and the success of the Congress was undoubtedly due in large measure to his organisation and the geniality and courtesy with which he presided at the meetings.

Dr. BEDFORD PIERCE wished to say a word about Dr. Emil Kraepelin.

Professor Emil Kraepelin is a graduate in the University of Würzburg. He is a distinguished Professor of Psychiatry in the University of Munich, which post he has held since 1903, having previously occupied a similar position in the Universities of Dorpat and Heidelberg. His name in this country is prominently familiar to us all in association with his views and writings upon the classification of Mental Diseases, and as the head of the well-known clinique at Munich. As examples of the most important of his literary works may be mentioned his—

Text-book of Psychiatry (which has extended to eight editions).

Clinical Lectures (which has been translated into English by Dr. T. Johnstone).

The Psychologische Arbeiten, and

The Influence of Certain Drugs upon Simple Psychical Processes.

Professor Kraepelin is a member of numerous learned societies in most countries of Europe. He thought the Association would be doing wisely in making him one of its honorary members.

Dr. URQUHART said he would like, in one word, to support the nomination of those distinguished gentlemen for the Honorary Membership. On behalf of Sir William Collins, he was sure that everyone who was interested in the insane would heartily support the proposition. With regard to Professor Obersteiner, all who took an interest in the anatomy of the nervous system and the great work he had done in Vienna, must recognise him as the foremost man in the specialty in Vienna at the present time. With regard to Professor Kraepelin, a man who had reorganised and altered the whole system of education in the German schools and the methods of the German Army, was surely a man whom the Association could very well honour.

Dr. RAYNER desired to say, in regard to Dr. Julian Moreira, who was proposed as a Corresponding Member, that he was Superintendent of the Rio Asylum, and Editor of the Brazilian *Archives of Psychiatry*. He was also author of many works in Spanish which showed a very wide range of clinical observation and research. As a Corresponding Member, he hoped Dr. Moreira would contribute some notes on Psychiatry in Brazil to the JOURNAL annually. He had great pleasure in proposing him.

Dr. PERCY SMITH said that Dr. Alexander Pilcz was also proposed as a Corresponding Member.

Dr. Alexander Pilcz is the Superintendent of the Landessanatorium für Nerven und Geistesranke, Steinhof, Vienna. He is Extraordinary Professor of Psychiatry and Neurology in the University of Vienna, formerly Assistant Physician of the Vienna Asylum, and Assistant in the Psychiatric Klinik of the University of

Vienna. He is also Corresponding Member of the Neurological Society of Tokio, Japan, and of the Medical Club of Constantinople, and "membre associé étranger" of the Medico-Psychological Society of Paris. He is a member of other Medical Societies in Vienna and Breslau. Dr. Pilcz was General Secretary of the International Medical Congress on the Care of the Insane held in Vienna in October, 1908, and the success of the Congress was largely due to his powers of organisation. Dr. Pilcz has written the following books:

Die periodischen Geistesstörungen, 1901.

Lehrbuch der speziellen gerichtlichen Psychiatrie, 1908.

Lehrbuch der speziellen Psychiatrie, 1904. 2nd Edition in the press.

Vergleichende Rassenpsychiatrie, 1904.

Über Verstimmungszustände, 1909.

In addition to these he has published numerous papers in the *Wiener klinische Wochenschrift*, *Jahrbücher f. Psychiatrie*, *Monatsschrift f. Psychiatrie*, *Wiener klin. Rundschau*, *Annales medico-psychologiques*, *Wiener medizin Wochenschrift*, and the *Archives de Neurologie*.

His contributions to the literature of insanity amount to forty-four in number.

The PRESIDENT subsequently announced that all the candidates—Honorary, Corresponding, and Ordinary—had been duly elected, as set forth on the subjoined list:

The following were elected as Ordinary Members:—Dohson, Margaret Bernard, M.D.Lond., Medical Inspector of Schools, Bradford Education Committee, 10, Apsley Crescent, Bradford (proposed by T. Outterson Wood, G. F. Barham, and C. Hubert Bond); Williamson, George Scott, L.R.C.S.&P.Edin., Pathologist, West Riding Asylum, Wakefield (proposed by W. Bevan-Lewis, H. Hayes Newington, and C. Hubert Bond).

The following were elected as Honorary Members:—Sir William J. Collins, M.P., M.D., F.R.C.S., etc. (proposed by H. Hayes Newington, Robert Jones, G. E. Shuttleworth, R. Percy Smith, A. R. Urquhart, and C. Hubert Bond); Professor Heinrich Obersteiner (proposed by Geo. Plunkett O'Farrell, John Macpherson, R. Percy Smith, Chas. Mercier, A. Helen Boyle, P. W. Macdonald, and C. Hubert Bond); Professor Emil Kraepelin (proposed by T. S. Clouston, W. Bevan-Lewis, Edwin Goodall, R. Percy Smith, Bedford Pierce, and C. Hubert Bond).

The following were elected as Corresponding Members:—Dr. Julian Moreira (proposed by H. Rayner, P. W. MacDonald, H. Hayes Newington, and W. R. Dawson); Dr. Alexander Pilcz (proposed by Geo. Plunkett O'Farrell, John Macpherson, R. Percy Smith, Chas. Mercier, and W. Bevan-Lewis).

CONGRATULATIONS TO DR. MERCIER.

Dr. G. H. SAVAGE said it would not be considered, he hoped, that what he was about to say was out of order. All present were rejoiced at seeing Dr. Mercier in the chair. (Applause.) He deserved not only the thanks of the Association, but a medal for heroism. He had been very seriously ill, and it was quite possible his medical advisers told him he had no business to come. But he had braved all danger, and all hoped that the change might be preservative and conservative, and that he would feel all the better for having been present at the annual meeting. The meeting would join in wishing Dr. Mercier a rapid and complete restoration of health.

He also had heard that Dr. Marriott Cooke had been seriously ill, and had had to undergo an operation. It was probable that Dr. Cooke would not be able to return to work for some months. As an old asylum officer, and one who was still connected with the Association, he thought Dr. Cooke would appreciate a vote of sympathy, and he suggested that the Secretary be asked to convey such in the name of the President and the Association.

Both votes were carried by acclamation.

The PRESIDENT, in acknowledging the congratulations to himself, said that Dr. Savage was always most kindly to him, and he felt the references very keenly. He need scarcely say he was attending the meeting in defiance of his medical adviser. He always disregarded the advice of his medical adviser, and he hoped his colleagues did also. (Laughter.) He really felt unfit to come, but the effect of the

meeting had been to restore him to almost complete health again; so that he felt inclined in the future to recommend persons suffering from the condition that he had, a course of meetings as recuperative agents. He thanked members for their congratulatory vote.

Dr. YELLOWLEES said he believed no one would appreciate more than the President what he was about to say. Although the business part of the meeting stood adjourned until next November, there seemed no reason why members should not express their hearty thanks to all the officials of the Association, the President included. He agreed heartily with all that Dr. Savage said about Dr. Mercier. And reference might have been made again to the part played by Dr. Mercier in the introduction of the ladies. That was a memorable thing, which should not be forgotten. But he wished to refer specially to the work done by the officials of the Association during the past year. Members owed them more than was generally realised; an immense amount of thought and time were spent in connection with the affairs of the Association by the officials, not only by the President, but also by his right-hand man, the Secretary. Nothing was more admirable than the work which Dr. Bond had done, and it was carried out in the most perfect and business-like way. That was evidenced in the documents which were before them, and they could not be too grateful for that work. As to the Treasurer, the Association thanked him so often that the thanks seemed to come almost spontaneously; but never before had members listened to such a perfect *resumé* of the finances of the year than Dr. Hayes Newington had presented that day. The thanks of the Association were due also to the Council and all the Committees—with the exception of those members with cyphers after their names! Very special thanks were due to the Educational Committee.

The vote was carried by acclamation.

The PRESIDENT said he did not know whether he ought to thank Dr. Yellowlees, or whether he ought not rather to call him to order for having introduced into the morning meeting, business which was specially placed on the agenda for the afternoon. At the moment he had not prepared any reply, and therefore he asked members to be content with the very bald expression which he could make on the spur of the moment. He wished to say that the President of the Association was an ornamental official, who took all the credit, but did none of the work. ("No.") The people to whom the Association's thanks ought to be given were the hard-worked officials—the Secretary, Treasurer, and Registrar. The amount of their work was increasing every year; it was very heavy and onerous, and the debt of the Association to them, heavy as it always was, was continually increasing. The President was a functionary who occupied the chair for a year, took credit for the labours of other people, and departed in a halo of glory.

AFTERNOON MEETING.

INDUCTION OF DR. BEVAN-LEWIS AS THE NEW PRESIDENT.

The PRESIDENT said it only remained for him to induct his successor into the chair. It was a matter of great congratulation to him, and was a distinction in itself, to precede so eminent a psychologist as Dr. Bevan-Lewis. No one could relinquish an office of such honour and distinction as that of President of the Association without regret; but everything in this world must have an end, and it was time that his kingdom should be taken from him, and should be given to another and more worthy man. He then, amid applause, affixed the presidential badge on to the breast of Dr. Bevan-Lewis, who took the chair.

The PRESIDENT said his first duty was to distribute the Association's prizes to the successful competitors. Dr. Henry Devine, Long Grove Asylum, Epsom, had been awarded the Gaskell Prize—£45 and the gold medal. It was a very great pleasure to him to award Dr. Devine that prize, a pleasure which was enhanced by the fact that Dr. Devine was an old West Riding Asylum man. Not only so, but at present he held office under a former distinguished colleague from West Riding Asylum, Dr. Bond.

Dr. MERCIER said he thought it would not be considered inappropriate if he

informed the meeting that yesterday Dr. Devine was awarded the M.D. degree of the University of London in the division of Psychiatry.

The PRESIDENT said that, on the recommendation of the Council, a second prize of £15 and a silver medal would be awarded to Dr. Grills, of Chester Asylum. The bronze medal and £10 had been awarded to Dr. Colin McDowall, of Hatton Asylum, Warwick. As the winner was not present he asked his father to receive the prize for him. The examiners had also recommended that another essay should be awarded a second prize. The name of the author was not at present known, except as "Organism A."

PRESIDENTIAL ADDRESS.

The PRESIDENT then read his Address (see p. 591).

Dr. MERCIER said he was sure all present would very heartily concur with him in proposing a vote of thanks to the President for his Address, which was as eminently distinguished by reasoning as it was by learning. The principles of Mendel and the statements of the biometricians were in conflict, and it seemed to him to be a needless conflict. Professor Bateson on the one hand, and Professor Karl Pearson on the other, were the protagonists of the great drama, and he thought the time was coming when they would be reconciled. The principles of Mendel were charmingly simple and charmingly obvious, and evidently carried immediate conviction to the mind as long as they were confined to simple cases. But when the cases became complex, and it was necessary to invoke the aid of current determinants, it seemed comparable to the Ptolemaic system of astronomy. That system provided for the ordinary case admirably; one single sphere of crystals in which all the stars were set. But then came in, unfortunately for the system, the wandering planets, which quite disposed of the possibility of there being but a single sphere. And so another sphere had to be invented, then another, and then another, until the system became so complicated that it collapsed altogether and crumbled away, and something more simple had to be substituted. Similarly Mendelism was charming and fascinating so long as it confined itself to the explanation of simple cases; but when it was applied to the exceedingly complex cases such as the President had just dealt with, it became more and more difficult to follow it. The whole question of heredity in relation to disease had been discussed by the Royal Society of Medicine recently, and the application of Mendelian principles to disease was there fully stated by several very eminent gentlemen. When Professor Bateson discoursed on that subject before the Neurological Society, in his Presidential address, he remembered that he gave, as the President had given that day, a case in which there were some sixty-four possible combinations. In one case, indeed, he believed there were more. If he remembered aright it came out somewhat in this way; that supposing one took the factors of insanity and epilepsy, of drunkenness and general eccentricity, and that each of them was represented by certain determinants, what was no longer termed protoplasm but zyots, it seemed that in any given family there would be, say, three inebriates, nine persons insane, twenty-seven eccentrics, and another proportion of some other defect. The difficulty, then, of predicting what would be the product of any particular birth would be that of deciding which of those particular conditions would disappear, seeing that in ordinary families there were not sufficiently large numbers to enable one to predict with certainty what the result would be. And that seemed to him to limit the usefulness of Mendelism in its application to the case of ordinary families, in enabling one to predict what would be the result in any individual case. But the whole subject of Mendelism and of heredity was in the air; it was now being inquired into with the greatest care and solicitude by a large number of very skilled observers, and members of the Association could not feel sufficiently grateful to the President for placing before them the very latest products of research in the clear statements for which he was so well known. He was sure all present would join with him in a very hearty vote of thanks to the President for his admirable address.

Dr. G. H. SAVAGE said he felt it to be a great privilege to have been asked to second the vote of thanks to the President. Yet, at the same time, it was a great responsibility, for one had to recognise the work which Dr. Bevan-Lewis did thirty

years ago, pioneer work which had since been recognised as permanently good work; and only last week he saw a report of a lecture by Sir Victor Horsley on the motor centres in the cerebrum and cerebellum, wherein Sir Victor referred to the work of Professor Bevan-Lewis which had not been sufficiently appreciated, but had now been well established as true. And now we had Professor Bevan-Lewis putting forward the new facts with a lucidity which demonstrated that he had retained his quickness and alertness, and his appreciation of what was going on at the present time. One felt the truth of what Dr. Mercier said, that though the Jesuit priest studied sweet peas, he did not know much about the organisations or operations of the human mind, or the events which occurred in mental disorder. One felt with Dr. Mercier the infinite complexity of those questions. Yet work, and good work, was being done at the present time by the horticulturist. When one went to the Temple Flower Show and saw 3000 specimens of sweet peas, one realised the number of varieties, with their crossings and re-crossings, and the interesting Mendelian relationships. Not very far from that meeting a friend of his, a great breeder of irises, was always crossing and re-crossing, and was guided to a great extent by what Mendel had shown to be true. What we still had to learn was what was dominant, and what was predominant, in the human mental mechanism. But it was not for him to enlarge upon the paper. One of the advantages of the President's Address was that it might be praised but must not be discussed. He had the greatest pleasure in praising it, and he was sure the meeting would accept the proposition which had been submitted by Dr. Mercier, that a very hearty vote of thanks be given to the President for his address.

Sir JAMES CRICHTON-BROWNE said he had been asked to utter one word of congratulation to his old friend and colleague, Dr. Bevan-Lewis, for the admirable address to which the meeting had just listened. He would be a bold man who, at the nonce, would discuss or criticise an address which involved, as did the President's, the deep problems of the Darwinian and Mendelian hypothesis. The Society ought to have had present Professor Karl Pearson and Dr. Bateson to discuss it. All present would have at once recognised its great scientific ability and its profundity of thought. Those observations and researches, as the President had indicated, had a direct bearing upon their department, for we should one day come to breed brains and nervous systems which should be immune from epilepsy and insanity, just as the Cambridge School was at present producing wheat immune from smut. In congratulating his friend and colleague he did not wish to be considered egotistical; but he hoped he might be excused for saying it was with somewhat pathetic feelings that he found himself present there that day, exactly forty-three years from the date on which he was appointed Medical Director of that Asylum. A mere youth, he was entrusted, by a too-confiding committee, with that responsible task. He spent there ten of his busiest and most strenuous years, and therefore the happiest years of his life; years no doubt tremulous with anxiety and hope; and now, looking back through the long vista of official drudgery, encompassed with routine and festooned with red tape, he could say that, on scientific grounds, he regretted the day when he left the West Riding Asylum, with its manifold interests and many-sided possibilities, which the President had so well and happily outlined. Perhaps in his somewhat detached position he was better able to appreciate the work done by the Association and by its President. He had seen the Association climb from a small beginning to a position of great influence and authority; he had seen it draw into its bounds an ever-increasing number of members, uniting them in agreeable and inspiring association. He had seen the efforts it had made to ameliorate the condition of the insane, especially by the training of those who waited upon the insane; and, above all, he had seen it encouraging the scientific investigation of mental disease, of which the President had that day been so able an exponent, and from which so much might be hoped. That scientific investigation, which began in small and faltering steps, was now advancing by leaps and bounds. Never before were there so many labourers in the scientific field, nor were there such splendid or abundant results. He looked to the future of the Association with intense hopefulness, and he could almost perceive the day when men would no longer be wrangling as to whether the increase of insanity was apparent or real, but when they would be triumphantly rewarded, year after year, by the undoubted decrease, until those halcyon days came when the winter of our madness was past, when the wail and

the weeping were over and gone, and the voice of the turtle was heard in the land. It was, of course, to prophylactic measures that one must mainly look for the cure of insanity; it was to that which the President had submitted in his address; the prevention of preventible disease (which many believed to be responsible for general paralysis), to improving the conditions of life, to making life happier, to improved temperance, to some moderation in the haste to be rich, to some reconstruction of belief; and for his own part, he looked with sanguine expectation to the effects of that systematic medical inspection of school children which had now been inaugurated, and which ought certainly to serve to nip in the bud some mental enfeeblement and some disorder. Perhaps he was digressing, but he ventured to improve the opportunity by saying that while it was to preventive medicine and prophylactic measures one must mainly look for the reduction of insanity, was there not also much to be done in the domain of curative medicine? At the meeting of the Cancer Research Fund in London ten days previously, under the presidency of the Prince of Wales, the note sounded by all the speakers was one of confidence in the ultimate conquest of that most defiant of maladies. Why, therefore, should they, in reference to forms of insanity, fold their hands in hopeless resignation? They could not expect to build up again brains which had been broken down; but with regard to certain other forms of insanity the physician was apt to be quiescent as to their intractability. Nothing had struck him in his official experience more than the unexpected recovery of what had been regarded as incurable cases. He had seen two such in the present year. A lady who had had delusional insanity for fourteen years had now thrown aside her delusions; and another patient who, after seventeen years of apparent dementia, during which he sat silent and had to be fed from time to time, subsequently to an attack of influenza suddenly brightened up and became intelligent and reasonable. He saw him recently engaged in gardening, speculating on the long gap in his mental life. If the poison of influenza could thus stimulate the stagnant brain, why should there not be drugs which had the same effect? One recognised the use of a recent drug, veronal, under certain conditions. He had been told that there were a thousand substances in the same series discovered and prepared by German chemists and awaiting pharmacological experiment. Surely among them there ought to be some which were capable of beneficially influencing the nutrition and the functional activity of the brain. He ventured to say that Dr. Bevan-Lewis's address was more than an address, it was a treatise, worthy of the *Transactions of the Royal Society*, and he thought it would make memorable the number of the JOURNAL in which it would appear. He sometimes had feelings akin to despair when he contemplated the medical literature of the day. At one time he had the journals on a small shelf, but now a library would not contain them; they came in in cartloads, and he did not know how they would all be accommodated. He supposed every conscientious medical psychologist had felt bound to read, mark and learn and inwardly digest the *Report of the Royal Commission on the Care of the Feeble-minded*. (Laughter.) With an effort he was able to get through one page of the Report in four minutes. There were 4000 pages of the Report, and that meant 16,000 minutes, or 24 days of reading of over 11 hours per day. That was a very heavy and ponderous task to devolve upon members. But that was not all; they had to read Reports of Commissioners and Inspectors of Asylums, all the Asylum Reports, British and foreign, all the Neurological Journals, and keep themselves abreast of general medicine, and, as Dr. Bevan-Lewis had mentioned, general science and biological science. And as medical psychology was a criticism of life, one was bound to read all the new novels, and to attend all the problem plays; they must look through the law reports and the police reports. And more than that, it was incumbent upon the psychologist to attend the golf course from time to time, for there he could study those sudden cerebral explosions of the great psychologists. He hoped he might be pardoned for detaining the meeting so long, but it was seldom he had the opportunity of addressing that audience. He wished to congratulate the Association on its President, a man who had attained to great scientific eminence, and to thank him for the address which he had just delivered.

The PRESIDENT thanked the meeting very heartily for the vote of thanks, and the way in which it had been proposed and received. He would not detain the meeting, as members would shortly be due at Leeds; but it had been ample

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repayment for any trouble he had had over the address to have heard the remarks of the three gentlemen who had been concerned in the vote of thanks to himself.

The meeting was then adjourned until the following day.

SECOND DAY.

MORNING MEETING.

The PRESIDENT was in the Chair.

Dr. HELEN BOYLE read a very interesting paper giving an "Account of an Attempt at the Early Treatment of Mental and Nervous Cases (with special reference to the Poor)" (see p. 683).

The PRESIDENT thought she had presented in a very suggestive manner a subject that to some extent was in the air at the present time.

Drs. RAYNER and OSWALD discussed the points raised in the paper.

Dr. URQUHART expressed his opinion that the Association ought to make a special acknowledgment to Dr. Boyle for magnificent work done in the face of enormous difficulties and involving much personal sacrifice and responsibility.

BUDA-PESTH CONGRESS.

Drs. P. W. MacDonald and R. C. Stewart were appointed as delegates to represent the Association.

"The Mental Symptoms in Exophthalmic Goitre and their Treatment" was the subject of a paper read by Dr. R. J. GILMOUR (see p. 668).

An interesting discussion followed in which the PRESIDENT and Drs. G. SCOTT WILLIAMSON, BOWER, ORR, BAUGH, and BOYLE joined, and to which Dr. GILMOUR replied.

Dr. G. SCOTT WILLIAMSON then read a paper entitled "The Cerebro-spinal Fluid in General Paralysis and the Nervous Lues," illustrated by lantern slides (see p. 655).

The PRESIDENT characterised the paper as one of much value.

It elicited a close discussion from Drs. ROWS, ORR, McRAE, GILMOUR, and WINIFRED MUIRHEAD.

AFTERNOON MEETING.

A telegram was received from Dr. Nathan Raw regretting his inability to be present to read his paper as announced on the agenda.

A second paper was read by Dr. SCOTT WILLIAMSON upon "The Bacillus Paralyticus" (see p. 642).

Dr. FORD ROBERTSON opened the discussion, and expressed his indebtedness to Dr. Scott Williamson for the latter having forwarded him in advance a copy of his paper. He recognised it, however, as a serious attack on the views held by Dr. McRae and himself, and proceeded to criticise it at considerable length.

Drs. WINIFRED MUIRHEAD, McRAE and STODDART also joined in the discussion.

"The Experimental Production of General Paralysis" was then the subject of a paper by Dr. FORD ROBERTSON, which was illustrated by lantern slides (see p. 631).

A lively discussion ensued in which the PRESIDENT and Drs. ORR, SCOTT WILLIAMSON and McRAE joined, and to which Dr. FORD ROBERTSON replied.

A paper by Dr. L. O. FULLER, entitled "Alcoholism, Crime, and Insanity," closed the work of the meeting (see p. 692).

The PRESIDENT congratulated Dr. Fuller upon an admirable paper containing many fruitful suggestions.

Dr. MERCIER heartily supported him in deprecating the fixity of sentence.

Dr. HEARDER contributed his experiences at his establishment for inebriates.

Dr. JAMES STEWART expressed his views on the subject of self-control.

Dr. BOND suggested that something might be done by the Association to press forward the goal at which Dr. Fuller aimed, and towards which end those qualified to judge appeared in accord.

Dr. MERCIER said a Bill had been drafted on the lines of the Departmental Committee's report. He believed there was no chance of the Bill being proceeded

with this year, but he thought it might be well for the Association, at the November meeting, to send a reminder to the Home Office of the urgency of the question.

The proceedings terminated with a hearty vote of thanks, proposed by Dr. HAYES NEWINGTON and seconded by Dr. JAMES STEWART, to the President, and congratulations upon a very successful session.

ANNUAL DINNER.

The Annual Dinner was held on Thursday evening, at the Queen's Hotel, Leeds. Among the distinguished guests supporting the President were the Lord Bishop of Wakefield, Sir James Chrichton-Browne and Professor Grünbaum.

IRISH DIVISION.

THE SUMMER MEETING of the Division was held at the District Asylum, Clonmel, on Thursday, July 1st, 1909, by the courtesy of Dr. Bagenal Harvey, who occupied the chair. There were also present Drs. J. A. Oakshott, T. Drapes, J. Cotter, J. F. Fitzgerald, E. O'Neill, and W. R. Dawson (Hon. Sec.). Apologies were received from Drs. T. A. Greene, James J. Fitzgerald, M. J. Nolan, P. Coffey, A. Finegan, J. O'C. Donelan, and others.

The minutes of the previous meeting were read, confirmed, and signed.

A letter from Dr. M. J. Nolan was read reporting that he had given evidence before the Select Committee of the House of Commons in connection with the Asylums Officers' Superannuation Bill, as deputed by the Irish Division at their last meeting. Some discussion took place in which the Chairman and Drs. Oakshott, O'Neill, and Drapes joined.

The Hon. Secretary reported on a matter arising out of the minutes.

The following was balloted for and declared unanimously elected an Ordinary Member of the Association, viz.:—Kathleen Dillon, L.R.C.P.I., L.M., L.R.C.S.I., Assistant Medical Officer, District Asylum, Mullingar; proposed by Drs. A. Finegan, W. S. Gordon, and W. R. Dawson.

It was agreed that the Autumn Meeting of the Division should take place at the Royal College of Physicians, Dublin.

A discussion took place upon the part of the Irish Report of the Royal Commission on the Poor Laws which dealt with the insane. The discussion was joined in by the Chairman, Dr. O'Neill, the Hon. Secretary, and others, and the meeting was unanimous in disapproving of the establishment of auxiliary asylums except as departments of the parent institutions. The Chairman was especially opposed to such a step from practical experience at Clonmel, where a separate auxiliary had been established in an old workhouse, and found neither satisfactory nor economical. Finally, a unanimous resolution was passed embodying these views, with the addition that if such a separate auxiliary were for any reason established there should always be one or more resident medical officers. Copies were directed to be sent to the Irish Chief Secretary and the Inspectors of Lunatics.

After a short discussion, a resolution was unanimously passed expressing the opinion of the Division that lectureships in mental diseases should be established in connection with the medical faculties of the constituent colleges of the new Irish National University and Queen's University of Belfast, as had already been done at the Cork College.

A resolution was unanimously passed reiterating the view expressed a year ago that the expenses of the Hon. Secretary of the Division in attending the London meetings of the Association should be defrayed by the latter, and adding that, in the opinion of the Division, all his expenses in attending meetings should be so defrayed.

Dr. W. R. Dawson read an account of a case of "Sane Hallucinations due to Alcohol and Atropin," written by the patient himself, who was a literary man of great ability. The paper was discussed by Drs. Drapes, O'Neill, Harvey, and Oakshott, and Dr. Dawson replied (see p. 711).

The meeting then adjourned for lunch, at which the members were entertained by Dr. Harvey, and on re-assembling a vote of thanks was unanimously passed to him for his kind hospitality, and he having replied, the formal proceedings terminated.

In the afternoon the newer portions of the Asylum, some of which, including an open-air sanatorium for phthisical patients, were only just completed, were visited by the members, many of whom, after tea at the Medical Superintendent's house, enjoyed a motor drive through the beautiful country surrounding Clonmel which was kindly arranged for them by Dr. Harvey, thus bringing a very pleasant day to a conclusion.

REPORT OF DEPARTMENTAL COMMITTEE (SCOTLAND) ON INEBRIATES.

The Report of this Committee has now been issued, and we need not refer to it at length here, for those recent Reports on Feeble-minded, Poor Laws, and Drunkards will require full consideration on the part of the Medico-Psychological Association. We merely note that the Committee are convinced that the existing statutes are inadequate, and demand substantial amendments and additions.

NOTES FROM AMERICA.

MEDICAL EXPERT TESTIMONY.

We learn from the *New York Times* of April 22nd last that the Assembly passed the Fowler Bill, recommended by the State Bar Association and the medical societies of New York. It provides for the appointment of from ten to sixty physicians to the court in each judicial department, these to be paid by the county in which the action is tried, and by no other person. They shall have had five years' experience in practice, and may be subject to call by the court or by either party to a civil or criminal action. The judge shall determine the amount of their compensation. A person on trial for murder, though he be penniless, may thus have recourse to unbiased and able testimony. The courts will appreciate evidence of this kind, and the Bill will do much toward restoring the dignity before the public of the medical profession in its legal aspects.

It should be noted that the Bill in no way limits the right of parties to call other expert witnesses.

EMMANUEL HEALING.

In the same newspaper we are told by the Minister of the Church of the Redeemer, Newark, N.J., that he has been working Emmanuel Healing for a year past. The object is to get rid of worry, fear, temper, jealousy, grief, lust, alcoholism, and the physical disturbances consequent; but not to meddle with cancer, tumours, tuberculosis, and other organic maladies. This is not Christian Science, and is not in conflict with medical treatment. The minister claims to have cured stammerers, alcoholics, dyspeptics, and those who had headaches, colds, grief, etc., relying on good advice, affirmatory prayer, and suggestion, but not hypnotism. We are left uninformed as to the nature of affirmatory prayers. Unfortunately—are they not rather of the nature of prophesyings?

THE CASE OF THAW.

The *New York Times* also informed the world on July 9th that the wealthy murderer of Stanford White was then enjoying his annual outing. That is to say, he was removed from the Criminal Asylum of the State of New York to the hospital ward of a jail which was notoriously unsafe, pending yet another inquiry into his sanity. On the 13th August, however, it was announced that it had been judicially declared that Thaw is a paranoic, still insane and unfit for liberation. His delusions were manifested to the Court, and the presiding justice was informed

by Dr. Baker, of Matteawan, that it would not be safe to set Thaw free. He has been returned to Dr. Baker's care, and the *Times* says that the community would be very glad to know that it had heard the last of the Thaw case.

MESSRS. CHURCHILL'S ILLUSTRATED CATALOGUE.

The illustrated catalogue of books published by the publishers of this journal is so excellent in its indexing and illustrations that our readers would do well to refer to it when in need of books relating to medicine or science.

NOTICE BY THE REGISTRAR.

NURSING CERTIFICATE.

The next examination will be held on Monday, November 1st, 1909. For full particulars apply to the Registrar, Dr. A. Miller, Hatton Asylum, nr. Warwick.

NOTICES OF MEETINGS.

Quarterly Meeting.—The next Quarterly Meeting will be held in London on Tuesday, November 23rd, 1909.

South-Eastern Division.—The Autumn Meeting will be held, by the courtesy of Drs. Adams and Johnston, at Brook House, Upper Clapton, N.E., on Wednesday, October 6th, 1909.

Soath-Western Division.—The Autumn Meeting will be held, by the courtesy of Dr. Blachford, at Fishponds Asylum, Bristol, on Friday, October 22nd, 1909.

Northern and Midland Division.—The Autumn Meeting will be held, by the courtesy of Dr. Douglas, at the Royal Albert Asylum, Lancaster, on Thursday, October 21st, 1909.

Scottish Division.—The Autumn Meeting will be held on Friday, November 19th, 1909.

Irish Division.—The Autumn Meeting will be held on Saturday, November 6th, 1909.

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